ISNS Case Study

ADHD / OCD

Dr. Tina Bozicnik, M.D.,and Dr. Christina Rahm Ph.D.

Attention-deficit hyperactivity disorder (ADHD) is one of the most common mental disorders affecting children. ADHD is considered a chronic and debilitating disorder and is known to impact the individual in many aspects of their life including academic and professional achievements, interpersonal relationships, and daily functioning. ADHD can lead to poor self-esteem and social function in children when not appropriately diagnosed and treated.

ADHD is among the most prevalent mental diseases in children and adolescents and has an epidemic incidence of 5.3 percent. ADHD affects roughly 2.5 percent of the senior population. Among clinical populations, men have a higher incidence than women, according to epidemiological studies. An economically disadvantaged position is linked to ADHD, regardless of the fact that worldwide diagnosis rates have risen considerably in recent decades. Rising diagnostic rates are therefore related to better diagnosis or an improvement in functional disability instead of an actual rise in incidence. Increased motor excitement, lack of attention, and lack of impulse control are common characteristics of individuals with ADHD. The modern definition of ADHD, as described by the American Psychiatric Association's DSM-IV-TR (American Psychiatric Association 2000), is relatively recent. A continuing trend of inattention and hyperactivity-impulsivity that affects overall functioning or growth is characteristic of attention deficit hyperactivity disorder (ADHD). Individuals who have ADHD have a recurring tendency of the following side effects: Inattention is defined as a person’s failure to stay focused, maintain discipline, or stay on task, and it is not triggered by opposition or lack of comprehension. Hyperactivity is characterized as a person who seems to walk around constantly, even if it is not desired, or who fidgets, bangs, or talks

excessively. Adult hyperactivity might take the form of extreme restlessness or inappropriate talking.

Impulsivity is defined as a person's proclivity to act without thought or to battle with self-control. Impulsivity can also be characterized as a need for immediate pleasure or an unwillingness to endure it. Someone who is impulsive may cause problems for others or make key decisions without considering the long-term consequences. Many healthy children are inattentive, restless, or impulsive at some point in their life. Preschoolers are notorious for their short attention spans and inability to concentrate on a single activity for long periods of time. Even among older adolescents and teens, the number of interests influences focus and concentration. Hyperactivity works in a similar way. Children are inherently lively, and they may keep going long after their guardians have worn out. Children must never be labeled as suffering from ADHD just because they are not like their classmates or siblings.

Symptom levels fluctuate throughout sectors of life and environmental stresses. In this regard, circumstances requiring focus, patience, and impulse management are frequently the earliest in which symptoms manifest. However, substantial motor disturbance under four years old is difficult to discern from normal activity. Furthermore, particular high incentive or reward anticipation, and powerful external behavior controls might alleviate symptoms in specific instances, but not permanently. The absence of symptoms within constrained observational circumstances does not exclude the diagnosis. Inattentiveness, poor planning abilities, and impulsivity frequently linger throughout adolescence. Adults with ADHD may have more severe emotional disturbance symptoms, such as lower frustration endurance, impatience, and mood changes. ADHD is linked to poor psychological functioning and perceived health-related standard of living. ADHD kids are four substantially less likely as their classmates to graduate from college and have a poorer socioeconomic status. Their lifespan for suicide is fourfold greater compared to their peers; the degree of ADHD is significantly connected to the prevalence of suicidal behavior. The 50% rise in death among people with ADHD throughout all age categories is due to their accident-proneness, notably motor vehicle accidents. ADHD has been linked to many environmental variables in epidemiological research. Environmental toxins (organophosphates, P. C. B.s, lead) (Banaschewski et al., 2017), adverse psychological settings (severe poverty, maternal hostility), and dietary variables (maternal tension, smoking or drinking during pregnancy,

reduced birth weight, preterm) are among the most important (Vrjiheid et al., 2016). Many of these potential environmental risk variables have yet to be proved casual: The reported relationships could be attributed to confounding elements and selection influences. Moreover, ADHD may cause greater exposure to particular environmental elements. Research has demonstrated that unfavorable mother-child relationships may generate (but not create) early childhood ADHD abnormalities and that maternal aggression adversely impact symptoms later in life (Banaschewski et al., 2017).

ADHD is usually treated as an outpatient. Whenever the outpatient therapy fails due to poor cooperation, family finances, difficult drug modifications, or imminent school dismissal, partial or complete inpatient therapy might be required (Pellow et al., 2011). Other causes for inpatient therapy include difficult differentiation diagnosis or a heavy comorbidity load. There is no evidence that unsaturated fatty acid supplements have any impact on the basic manifestations of ADHD. No additional dietary measures are typically therapeutic. ADHD may be treated in numerous ways, however, evidence shows that multimodal treatment is optimal for children (Pellow et al., 2011). This entails combining different therapy modalities such as medication and counseling. Stimulants remain the most prescribed medication for ADHD treatment, despite the concerns regarding overuse. They may reduce hyperactivity and enhance attention span. Inhibitors of impulsive behavior work on dopamine receptors within the brain. ADHD treatment may be pharmacological, non pharmacological, or both. These include stimulants (amphetamines and methylphenidate) and non-stimulants (atomoxetine, clonidine, and guanfacine extended-release). Stimulants are often considered first-line therapy. Following the discovery of an amphetamine molecule around 1937 and the FDA's authorization of methylphenidate around 1955, numerous studies have been conducted regarding pharmacotherapy for ADHD.

Obsessive-compulsive disorder (OCD) is an anxiety disorder characterized by intrusive obsessions and repetitive compulsions, which cause distress or are a significant burden. Obsessions are recurrent and persistent thoughts are experienced as intrusive and inappropriate, causing marked anxiety. Individuals with OCD do not want to have these thoughts and find them disturbing. In most cases, people with OCD realize these thoughts are illogical. Obsessions are typically accompanied by intense and uncomfortable feelings such as fear, disgust, uncertainty and doubt, or a feeling that things have to be done in a way that is "just right". OCD obsessions are time consuming and get in the way of important activities

the person values. Compulsions, on the other hand, are repetitive behaviors or mental acts carried out in response to an obsession and are aimed at preventing or reducing anxiety. People with OCD realize this is only a temporary solution, but without a better way to cope, they rely on compulsions nonetheless. Compulsions can also include avoiding situations that trigger obsessions. They are time consuming and can get in the way of important activities the person values. Symptoms may come and go, ease over time, or worsen. People with OCD may try to help themselves by avoiding situations that trigger their obsessions, or they may use alcohol or drugs to calm themselves. Although most adults with OCD recognize that what they are doing doesn't make sense, some adults and most children may not realize that their behavior is out of the ordinary. Parents or teachers typically recognize OCD symptoms in children.

OCD is a common disorder that affects adults, adolescents, and children all over the world. Most people are diagnosed by about age 19, typically with an earlier age of onset in boys than in girls, but onset after 35 does happen. The causes of OCD are unknown, but risk factors include: genetics, brain structure and functioning, and environment. Twin and family studies have shown that people with first-degree relatives (such as a parent, sibling, or child) who have OCD are at a higher risk for developing OCD themselves. The risk is higher if the first-degree relative developed OCD as a child or teen. Ongoing research continues to explore the connection between genetics and OCD and may help improve OCD diagnosis and treatment. Imaging studies have shown differences in the frontal cortex subcortical structures of the brain in patients with OCD. There appears to be a connection between the OCD symptoms and abnormalities in certain areas of the brain, but the connection is not clear. Research is still underway. Understanding the causes will help determine specific, personalized treatments to treat OCD. An association between childhood trauma and obsessive-compulsive symptoms has been reported in some studies. More research is needed to understand this relationship better. In some cases, children may develop OCD or OCD symptoms following a streptococcal infection - this is called Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections (PANDAS).

OCD is typically treated with medication, psychotherapy, or a combination of the two. Although most patients with OCD respond to treatment, some patients continue to experience symptoms. Sometimes people with OCD also have other mental disorders, such as anxiety,

depression, and body dysmorphic disorder, a disorder in which someone mistakenly believes that a part of their body is abnormal. It is important to consider these other disorders when making decisions about treatment. Serotonin reuptake inhibitors (SRIs), which include selective serotonin reuptake inhibitors (SSRIs) are used to help reduce OCD symptoms. SRIs often require higher daily doses in treatment of OCD than of depression and may take 8 to 12 weeks to start working, but some patients experience more rapid improvement.
Psychotherapy can also be an effective treatment for adults and children with OCD. Research shows that certain types of psychotherapy, including cognitive behavior therapy (CBT) and other related therapies (e.g., habit reversal training) can be as effective as medication for many individuals. Research also shows that a type of CBT called Exposure and Response Prevention (EX/RP) - spending time in the very situation that triggers compulsions (e.g., touching dirty objects) but then being prevented from undertaking the usual resulting compulsion (e.g., handwashing) - is effective in reducing compulsive behaviors in OCD, even in people who did not respond well to SRI medication. As with other mental disorders, treatment is usually personalized and might begin with either medication or psychotherapy, or with a combination of both.For many patients, EX/RP is the add-on treatment of choice when SRIs or SSRIs medication does not effectively treat OCD symptoms or vice versa for individuals who begin treatments with psychotherapy.

Case Study

Patient: Male

Age: 6-years-old

History: Lack of focus, hyperactivity, self damaging behavior, problems with socializing, extremely picky eater.

Symptoms: Lack of focus, hyperactivity, self-damaging behavior (head banging on the floor), problems with socialization (connecting with peers, creating relationships), extremely picky eater.

His father mentioned that his drawings were immature for a 5 year-old.

Noticed that he had dry skin and keratosis pilaris, which is a harmless skin condition that causes dry, rough patches, and tiny bumps, often on the upper arms, thighs, cheeks, or buttocks.

Treatment/Method: He received omega-3's, probiotics, and a multivitamin as well as proprietary blends.
Proprietary Blend II: Started out with ¼ of a capsule in the morning and increased to ¼ in the afternoon before 4 p.m.

After 2 Months
Proprietary Blend I: started with 2 drops in the morning and 2 drops in the evening, increasing by a drop every week until reaching 5 drops in the morning and 5 drops in the evening.
Proprietary Blend II: Increased to ½ capsules in the morning and ½ capsules in the evening before 4 p.m.

Additional treatment: A tailored food plan to support his brain, neuroplasticity, and gut-brain axis was implemented. Focused on rewiring the brain using different modalities like colors and whole-body vibration.

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), magnesium, trace minerals, quercetin, vitamin D, vitamin C, and vitamin K2

Results: After one month: he ate sauerkraut for the first time, he was never a good sleeper, and we could say a never sleeping, crying baby as if he was an infant. 1.5 months later he started sleeping a lot in the afternoon, at night- a sign that the brain was rewiring and balancing. His primary emotion was always anger.

2 months after we started, he started showing more empathy and sadness. A neighbor who

didn't see him for a few months was surprised how different and calmer he was. A few weeks later he started wearing jeans without a problem, before he was too sensory overwhelmed having jeans on and refused to wear them. On that day he chose to wear them and never had a problem wearing them ever since.

4 months after we started we determined foods that were healing for him. Tests were performed and a thorough check-up was done and a tailored special food plan that supported his brain, neuroplasticity, and gut-brain axis was implemented. He had much more focus and was calmer, although his OCD was exacerbated.

6 months after the start: He began working on his OCD symptoms, increasing the rewiring of the brain protocol and adjusted the functional supplement dosing. He was given Proprietary blend I and II and the protocol was adjusted as needed.

8 months from the start he was symptoms free and even today his teachers are amazed when they hear his story. There are no signs of impulsivity, ADHD, OCD, no problems with socialization. He is a happy 6-year-old.

There is always a combination of different modalities that need to be used in order to get results like these.

References

Albani, S. H., Andrawis, M. M., Abella, R. J., Fulghum, J. T., Vafamand, N., & Dumas, T. C. (2015). Behavior in the elevated plus maze is differentially affected by testing conditions in rats under and over three weeks of age. *Frontiers in behavioral neuroscience*, *9*, 31. https://doi.org/10.3389/fnbeh.2015.00031

Banaschewski, T., Becker, K., Döpfner, M., Holtmann, M., Rösler, M., & Romanos, M. (2017). Attention-Deficit/Hyperactivity Disorder. *Deutsches Arzteblatt international*, *114*(9), 149–159. https://doi.org/10.3238/arztebl.2017.0149

Elmaghraby, R., & Garayalde, S. (2022, June 22). *What is ADHD?*. Psychiatry.org - What is ADHD? https://www.psychiatry.org/patients-families/adhd/what-is-adhd

Kahathuduwa, C., Wakefield, S., West, B., Blume, J., & Mastergeorge, A. (2019). L-theanine and Caffeine Improve Sustained Attention, Impulsivity and Cognition in Children with Attention Deficit Hyperactivity Disorders by Decreasing Mind Wandering (OR29-04-19). *Current Developments in Nutrition*, *3*(Suppl 1), nzz031.OR29-04-19. https://doi.org/10.1093/cdn/nzz031.OR29-04-19

Lee, M. J., Chou, M. C., Chou, W. J., Huang, C. W., Kuo, H. C., Lee, S. Y., & Wang, L. J. (2018). Heavy Metals' Effect on Susceptibility to Attention-Deficit/Hyperactivity Disorder:

Implication of Lead, Cadmium, and Antimony. *International journal of environmental research and public health*, *15*(6), 1221. https://doi.org/10.3390/ijerph15061221

Sharif, M. R., Madani, M., Tabatabaei, F., & Tabatabaee, Z. (2015). The Relationship between Serum Vitamin D Level and Attention Deficit Hyperactivity Disorder. *Iranian journal of child neurology*, *9*(4), 48–53.

Tran, N. Q. V., & Miyake, K. (2017). Neurodevelopmental Disorders and Environmental Toxicants: Epigenetics as an Underlying Mechanism. *International journal of genomics*, *2017*, 7526592. https://doi.org/10.1155/2017/7526592

Vrijheid, M., Casas, M., Gascon, M., Valvi, D., & Nieuwenhuijsen, M. (2016). Environmental pollutants and child health-A review of recent concerns. *International journal of hygiene and environmental health*, *219*(4-5), 331–342. https://doi.org/10.1016/j.ijheh.2016.05.001

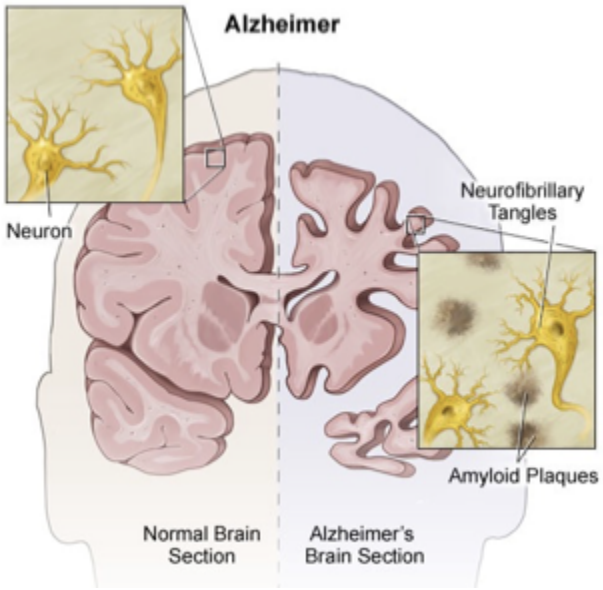
U.S. Department of Health and Human Services. (2022, September). *Obsessive-compulsive disorder*. National Institute of Mental Health. https://www.nimh.nih.gov/health/topics/obsessive-compulsive-disorder-ocd

ISNS Case Study

Alzheimer's Disease

By Dr. Norbert Ketskés, M.D., and Dr. Christina Rahm Ph.D.

Alzheimer's disease is the most common type of dementia. It is a progressive disease beginning with mild memory loss and possibly leading to loss of the ability to carry on a conversation and respond to the environment. Alzheimer's disease involves parts of the brain that control thought, memory, and language. It can seriously affect a person's ability to carry out daily activities. About 6.5 million people in the US age 65 and older live with Alzheimer's disease. Among them, more than 70% are 75 years old or older.



Scientists do not yet fully understand what causes Alzheimer's disease in most people. The causes include a combination of age-related changes in the brain, along with genetic, environmental, and lifestyle factors. The importance of any one of these factors in increasing or decreasing the risk of Alzheimer's disease may differ from person to person. Alzheimer's disease is a progressive brain disease. It is characterized by changes in the brain including amyloid plaques and neurofibrillary, or tau tangles that result in loss of neurons and their connections. These and other changes affect a person's ability to

remember and think, and eventually live independently. Older age does not cause Alzheimer's, but it is the most important known risk factor for the disease. The number of people with Alzheimer's disease double about every 5 years beyond the age of 65. About one-third of all people aged 85 and older may have Alzheimer's disease. Scientists are learning how age-related changes in the brain may harm neurons and affect other types of brain cells to contribute to Alzheimer's damage. These age related changes include atrophy (shrinking) of certain parts of the brain, inflammation, vascular damage, production of unstable molecules called free radicals, and breakdown of energy production within cells. Age is only one risk factor for Alzheimer's disease. Many people live into their 90s and beyond without ever developing dementia.

Memory problems are often one of the first signs of Alzheimer's. Symptoms vary from person to person, and may include problems with: word-finding or having more trouble remembering words than other people the same age. Vision and spatial issues, like awareness of the space around them. Impaired reasoning or judgement, which can impact decisions. Other symptoms may be changes in the person's behavior, including taking longer to complete normal daily tasks. Repeating questions. Trouble handling money and paying bills. Wandering and getting lost, losing things or misplacing them in odd places. Mood and personality changes, increased anxiety and/ or agression.

Alzheimer's disease slowly gets worse over time. People with this disease progress at different rates and in several stages. Symptoms may get worse and then improve, but until an effective treatment for the disease itself is found, the person's ability will continue to decline throughout the disease. Early-stage Alzheimer's is when a person begins to experience memory loss and other cognitive difficulties, though the symptoms appear gradually the person and their family. Alzheimer's disease is often diagnosed at this stage. During middle-stage Alzheimer's, damage occurs in areas of the brain that control language, reasoning, sensory processing, and conscious thought. People at this stage may have more confusion and trouble recognizing family and friends. In late-stage Alzheimer's, a person cannot communicate, is completely dependent on others for care, and may be in bed most or all the time as the body shuts down.

In most cases, Alzheimer's does not have a single genetic cause. Instead, it is likely influenced by multiple genes in combination with lifestyle and environmental factors. Changes in genes, called genetic variations, may increase or decrease a person's risk of developing the

disease. Scientists currently know of more than 70 genetic regions associated with Alzheimer's. Of the genetic variants associated with Alzheimer's so far, only three are known to cause the disease. Although it happens rarely, when someone inherits an altered version of one of these genes — *APP, PSEN1, or PSEN2* — they will likely develop Alzheimer's before age 65 and sometimes much earlier. People with Down syndrome also have a higher risk of developing Alzheimer's earlier in life. Down syndrome results from having an extra chromosome 21, which carries the *APP* gene that produces the amyloid precursor protein. Too much of this protein leads to a build-up of beta-amyloid plaques in the brain. Estimates suggest that 50% or more of people living with Down syndrome will develop Alzheimer's with symptoms appearing in their 50s and 60s. Another genetic variation, in the *APOE* gene, which has several forms, is known to influence the risk of Alzheimer's. Specifically, *APOE ε4* increases a person's risk of developing Alzheimer's and is also associated with developing Alzheimer's earlier in life for certain populations. *APOE ε2* may provide some protection against Alzheimer's. Changes in different genes, along with other biomedical, lifestyle, and environmental factors, play a role in potentially developing Alzheimer's. Still, it is never known for certain if any individual will or will not develop the disease.

Alzheimer's is complex, and it is therefore unlikely that any one drug or other intervention will successfully treat it in all people living with the disease. In ongoing clinical trials, scientists are developing and testing several possible treatment interventions. While there is currently no cure for Alzheimer's, medications are emerging to treat the progression of the disease by targeting its underlying causes. Some medications may temporarily improve or stabilize memory and thinking skills in some people and may help manage certain symptoms and behavioral problems. Additionally, people with Alzheimer's may experience sleeplessness, depression, anxiety, agitation, and other behavioral and psychological symptoms. Scientists continue to research why these symptoms occur and are exploring new medications and non-drug strategies to manage them. Research shows that treating these symptoms may make people with Alzheimer's feel more comfortable and also help their caregivers. Antidepressants, antipsychotics, and anti-anxiety drugs may be helpful for some people with Alzheimer's, but experts agree that these medicines should be used only after other strategies to promote physical and emotional comfort, such as avoiding stressful situations, have been tried. It's important to talk with a doctor about what treatment will be most effective in your situation.

Case Study

Patient: Female

Age: 70 -year-old

History: Alzheimer's disease was diagnosed 2 years ago (2022)

Clinical test:

The Mini-Mental State Examination (MMSE) is a 30-point, quick-to-take cognitive test that is mainly used to identify dementia and assess its severity in medical, clinical psychologist and neuropsychological practice.The interval from 30 to 29 is considered normal, points 27-28 may indicate a mild neurocognitive disorder, for those from 26 to 20 we assume mild dementia, from 19 to 10 moderate, and from 9 below severe we are talking about dementia.

In her case the result: 22

Treatment/Method:

Proprietary blend I: 2x6 drops, morning and evening, for 3 days, then every 3 days then increased by 1-1 drops every 3 days to 2x12

Proprietary blend II: 1 in the morning for 7 days, then 1 in the morning and 1 in the afternoon for 7 days, then 2 in the morning and 1 in the afternoon for 7 days, then 2 in the morning and 2 in the afternoon.

Proprietary III: ½ sachet in the morning for 7 days, then 1 sachet in the morning.

Proprietary blend IV: 1/2 teaspoon in the morning for 7 days, then 1 teaspoon in the morning.

Proprietary blend V: 1 teaspoon in the evening.

Proprietary blend VI: 1capsule in the morning for 7 days then 1capsule in the morning and 1capsule in the evening for 7 days, then 2 capsules in the morning and 1capsule in the evening

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

Results:

After 2 months: The change was first reported by the family: A slight improvement in speaking skills, the ability to find information, and mood improved.

After 4 Months: Mini-Mental State Examination: From 22 to 26. Expressed improvement in speaking skills, ability to find information, perception of time and mood. Not only the family noticed improvements, but the patient also could report improvements. Based on these, the patient's quality of life improved.

References

Bakulski, K. M., Seo, Y. A., Hickman, R. C., Brandt, D., Vadari, H. S., Hu, H., & Park, S. K. (2020). Heavy Metals Exposure and Alzheimer's Disease and Related Dementias. *Journal of Alzheimer's disease : JAD*, *76*(4), 1215–1242. https://doi.org/10.3233/JAD-200282

Chainoglou, E., & Hadjipavlou-Litina, D. (2020). Curcumin in Health and Diseases: Alzheimer's Disease and Curcumin Analogues, Derivatives, and Hybrids. *International journal of molecular sciences*, *21*(6), 1975. https://doi.org/10.3390/ijms21061975

Khan, F. Z., Mostaid, M. S., & Apu, M. N. H. (2022). Molecular signaling pathway targeted therapeutic potential of thymoquinone in Alzheimer's disease. *Heliyon*, *8*(7), e09874. https://doi.org/10.1016/j.heliyon.2022.e09874

Morello, M., Landel, V., Lacassagne, E., Baranger, K., Annweiler, C., Féron, F., & Millet, P. (2018). Vitamin D Improves Neurogenesis and Cognition in a Mouse Model of Alzheimer's Disease. *Molecular neurobiology*, *55*(8), 6463–6479. https://doi.org/10.1007/s12035-017-0839-1

ISNS Case Study

Bronchial Asthma

By Dr. Norbert Ketskés, M.D., and Dr. Christina Rahm Ph.D.

Asthma is categorized as a chronic inflammatory disease and is one of the most common lung conditions affecting children, adolescents and adults with more than 24 million people in the United States diagnosed with it. Asthma occurs because the airways that carry air into and out of the lungs become inflamed, irritated, and narrowed. Due to this, the muscles surrounding the airways tighten up and the cells in the airway begin producing more mucus than usual. This disease is caused by failure of the respiratory and immune systems to develop normally. The symptoms include wheezing, coughing, shortness of breath, and chest tightness. This disease is more often seen in children, but regression can occur with age with up to one-third of children becoming disease free in young adulthood.

The most common factors for developing asthma are having a parent with asthma, having a severe respiratory infection as a child, having an allergic condition, or being exposed to certain chemical irritants or industrial dust in the workplace. Scientists continue to explore what causes asthma but we do know that these factors play an important role in the development of asthma. If you have a parent with asthma, you are three to six times more likely to develop asthma than someone who does not have a parent with asthma. Some people are more likely to develop allergies than others, especially if one of their parents has allergies. Certain allergic conditions, such as atopic dermatitis (eczema) or allergic rhinitis (hay fever), are linked to people who get asthma. Respiratory problems during infancy and childhood can cause wheezing. Some children who experience viral respiratory infections go on to develop chronic asthma. If you have asthma,

exposure to certain elements in the workplace can cause asthma symptoms. For some people, exposure to certain dusts (industrial or wood dusts), chemical fumes and vapors, and molds can cause asthma to develop for the first time. Cigarette smoke irritates the airways.

Smokers have a high risk of asthma. Those whose mothers smoked during pregnancy or who were exposed to secondhand smoke are also more likely to have asthma. exposure to the main component of smog (ozone) raises the risk for asthma. Those who grew up or live in urban areas have a higher risk for asthma. Children and adults who are overweight or obese are at a greater risk of developing asthma. Although the reasons are unclear, some experts point to low-grade inflammation in the body that occurs with extra weight. Obese patients often use more medications, suffer worse symptoms and are less able to control their asthma than patients in a healthy weight range.

Athma is broken down into types based on the cause and the severity of symptoms. Intermittent asthma comes and goes, and you can feel normal in between asthma flares. Persistent asthma means you have symptoms most of the time. Symptoms can be mild, moderate, or severe. Healthcare providers base asthma severity on how often you have symptoms. They also consider how well you can do things during an attack. Asthma has multiple causes: some people's allergies can cause an asthma attack. Allergens include things like molds, pollens, and pet dander. Outside factors such as exercise, stress, illness and weather can cause asthma to flare up. Asthma can also be adult onset or pediatric. Adult onset asthma starts after the age of 18. Pediatric asthma, also called childhood asthma, often begins before the age of 5, and can occur in infants and toddlers. Children may outgrow asthma. There is also exercise-induced asthma which is triggered by exercise and is also called exercise-induced bronchospasm. Occupational asthma happens primarily to people who work around irritating substances.

Asthma cannot be cured but there are several treatments available. The most common treatment is to use an inhaler, which delivers medication directly to the lungs. Inhalers help control the disease and enable people with asthma to enjoy a normal, active life. There are two main types of inhalers: bronchodilators and steroids. Bronchodilators relax the muscles around the airways. The relaxed muscles let the airways move air. They also let mucus move more easily through the airways. These medicines relieve symptoms when they happen and are used for intermittent and chronic asthma. Steroids such as beclomethasone reduces inflammation in the
air passages, which improves asthma symptoms and reduces the risk of severe asthma attacks and death. People with asthma may need to use their inhaler everyday. Their treatment depends on the frequency of symptoms and the types of inhalers available.

Case Study

Patient: Female

Age: 35-year-old

History: Her father also has asthma.
Symptoms: She has recurrent episodes of coughing, wheezing, chest tightness, and shortness of breath. She reports that these symptoms are often triggered by exposure to allergens, such as pet dander and pollen, as well as physical exertion. An acute attack occurs every 2-3 days. She was diagnosed with asthma six months ago, January of 2023.
Clinical Tests: Pulmonary examination
Respiratory function tests:
e.g: Tiff: 75% (The Tiffeneau index (FEV1/VC%) is the most sensitive parameter of airway narrowing, whose value is over 80% in healthy adults.

Medications: She received asthma education and learned how to monitor her symptoms and use inhalers effectively.

Montelukast - 10 mg
Foster (formoterol and beclomethasone) 100/6 2x2 puffs
Berodual (ipratropium and fenoterol) if necessary 2x2 puffs (rescue medication)

Treatment/Method: She received proprietary blends in addition to conventional medications.
Proprietary Blend I: 2x5 drops, morning and evening, for 3 days, then every 3 days then increased by 1-1 drops every 3 days to 2x10
Proprietary Blend II: 1 in the morning for 7 days, then 1 in the morning and 1 in the afternoon
Proprietary Blend III: 1 sachet in the morning for 7 days then 1 sachet in the morning and 1 sachet in the evening
Proprietary Blend IV: 1/2 teaspoon in the morning
Proprietary Blend VI: 1 in the morning and 1 in the evening

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), magnesium, trace minerals, quercetin, vitamin D, vitamin C, and vitamin K2

Additional treatment: Exercises to achieve a positive mental and emotional state (e.g: yoga, meditation, breathing exercises, and stress management.)
Results: After 1 month of treatment: the intensity of symptoms has decreased (coughing, wheezing, chest tightness, and shortness of breath). Acute attacks improved from 2-3 per

week to only one per week.

After 2 months: Her symptoms continued to improve significantly. She did not have any acute attack in the second month. She did not need the emergency medication. She was able to participate in physical activities without significant limitations.

Control Respiratory Function Test: Tiff improved from 75% to 89%

References

Abidi, A., Gupta, S., Agarwal, M., Bhalla, H. L., & Saluja, M. (2014). Evaluation of Efficacy of Curcumin as an Add-on therapy in Patients of Bronchial Asthma. *Journal of clinical and diagnostic research : JCDR*, *8*(8), HC19–HC24. https://doi.org/10.7860/JCDR/2014/9273.4705

Koshak, A., Koshak, E., & Heinrich, M. (2017). Medicinal benefits of *Nigella sativa* in bronchial asthma: A literature review. *Saudi pharmaceutical journal : SPJ : the official publication of the Saudi Pharmaceutical Society*, *25*(8), 1130–1136. https://doi.org/10.1016/j.jsps.2017.07.002

U.S. Department of Health and Human Services. (2022, March 24). *What is asthma?*. National Heart Lung and Blood Institute. https://www.nhlbi.nih.gov/health/asthma

World Health Organization. (2023, May 4). *Asthma*. World Health Organization. https://www.who.int/news-room/fact-sheets/detail/asthma

ISNS Case Study

Colon Cancer

By Dr. Norbert Ketskés, M.D.,and Dr. Christina Rahm Ph.D.,

Colorectal cancer is a disease in which cells in the colon or rectum grow out of control. Sometimes it is called colon cancer, for short. The colon is the large intestine or large bowel. The rectum is the passageway that connects the colon to the anus. Sometimes abnormal growths called polyps, form in the colon or rectum. Over time, some polyps may turn into cancer. Colon cancer typically affects older adults though it can happen at any age. It usually begins as small, noncancerous (benign) clumps of cells called polyps that form inside the colon. Over time some of these polyps can become cancerous. If colon cancer develops, many treatments are available to help control it, including surgery, radiation therapy, and immunotherapy.

Colorectal cancer symptoms depend on the size and location of the cancer. Some commonly experienced symptoms include changes in bowel habits, changes in stool consistency, blood in the stool, and abdominal discomfort. The most common treatment for early stage colon cancer is surgery. Some patients with early stage disease may also receive chemotherapy after surgery. For patients with localized colon cancer, the five-year survival rate is 90 percent.

Case Study

Patient: Male

Age: 69 -year-old

History: No Colon Cancer occurred in his family. 7 months ago, during a routine examination, a lesion was found on an abdominal ultrasound. He had no complaints. A biopsy was performed during a colonoscopy.

Results of biopsy: Adenocarcinoma sigmae. The tumor was surgically removed 5 months ago. Due to histological results, 8 chemotherapy treatments followed. An enlarged lymph node was found in the control examinations, which showed a metastatic structure. The patient did not consent to its histological examination. We met for the first time after the 2nd round of chemotherapy treatments. Then the following complaints appeared as a side effect of the treatment.

Complaints: general weakness, diarrhea, nausea, vomiting, and malaise.

Laboratory tests: higher WBC (white blood cells): 17,6 (range 4,8-10,8 G/L) high inflammatory parameter (CRP: 145 mg/l, normal up to 5,0) and higher liver enzyme levels: ASAT:132 (U/L) (range 0-50), ALAT:122, range (0-50), GGTP: 168, (range 8-50 U/l)

Treatment/Method:

Proprietary blend I: 2 x 8 drops, morning and evening, for 3 days. Then every 3 days increased by 1-1 drops every 3 days to 2 x 10 drops.

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

Proprietary blend II: 1 in the morning for 3 days, then 2, 1 in the morning and 1 in the afternoon, then 3, 2 in the morning and 1 in the afternoon.

Proprietary III: 1 sachet in the morning for 3 days then 1 sachet in the morning and 1 sachet in the evening for 3 days, then 2 sachet in the morning and 1 sachet in the evening.

Proprietary blend IV: 1 teaspoon in the morning

Proprietary blend V: 2 teaspoons in the morning and evening.

Proprietary blend VI: 2 in the morning and 1 in the evening for 7 days, then 2 in the morning and 2 in the evening.

Additional Proposal: A special diet based on Dr. Norbert Ketskes' personal experience of more than 10 years. Exercises to achieve a positive mental and emotional state. The patient for now is undergoing chemotherapy and Dr. Norbert Ketskes's complementary treatments at Primus Labor. Summarizing the results of these combined treatments can be expected after finishing the chemotherapy.

Results: Complaints have been greatly reduced. Diarrhea and vomiting have stopped and he is feeling well.

Laboratory tests: Laboratory: higher WBC (white blood cells): 17,6-9,2 (range 4,8-10,8 G/L) high inflammatory parameter (CRP: 145-31 mg/l, normal up to 5,0) and higher liver enzyme levels: ASAT:132-55 (U/L) (range 0-50), ALAT:122-58, range (0-50), GGTP: 168-62, (range 8-50 U/l)

References

Frugé, A. D., Smith, K. S., Riviere, A. J., Tenpenny-Chigas, R., Demark-Wahnefried, W., Arthur, A. E., Murrah, W. M., van der Pol, W. J., Jasper, S. L., Morrow, C. D., Arnold, R. D., & Braxton-Lloyd, K. (2021). A Dietary Intervention High in Green Leafy Vegetables Reduces Oxidative DNA Damage in Adults at Increased Risk of Colorectal Cancer: Biological Outcomes of the Randomized Controlled Meat and Three Greens (M3G) Feasibility Trial. *Nutrients*, *13*(4), 1220. https://doi.org/10.3390/nu13041220

Ojo OA, Adeyemo TR, Rotimi D, Batiha GE-S, Mostafa-Hedeab G, Iyobhebhe ME, Elebiyo TC, Atunwa B, Ojo AB, Lima CMG and Conte-Junior CA (2022) Anticancer Properties of Curcumin Against Colorectal Cancer: A Review. *Front. Oncol.* 12:881641. doi: 10.3389/fonc.2022.881641

Ryding, Sara. (2020, September 30). NAD+ Metabolism in Cancer and Cancer Therapies. News-Medical. Retrieved on March 07, 2023 from https://www.news-medical.net/life-sciences/NAD2b-Metabolism-in-Cancer-and-Cancer-Therapies.aspx.

Shang, F., Jiang, X., Wang, H., Chen, S., Wang, X., Liu, Y., Guo, S., Li, D., Yu, W., Zhao, Z., & Wang, G. (2020). The inhibitory effects of probiotics on colon cancer cells: *in vitro* and *in vivo* studies. *Journal Of Gastrointestinal Oncology, 11*(6), 1224-1232. doi:10.21037/jgo-20-573

Wijewantha, N., Eikanger, M. M., Antony, R. M., Potts, R. A., Rezvani, K., & Sereda, G. (2021). Targeting Colon Cancer Cells with Enzyme-Triggered Casein-Gated Release of Cargo

from Mesoporous Silica-Based Nanoparticles. *Bioconjugate chemistry*, *32*(11), 2353–2365. https://doi.org/10.1021/acs.bioconjchem.1c00416

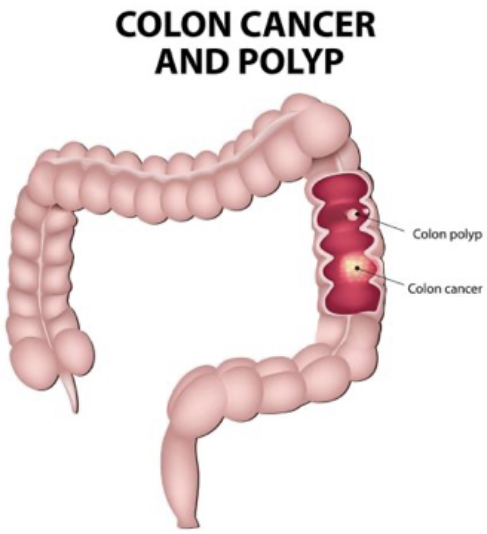
ISNS Case Study

Colon Cancer

By Dr. Norbert Ketskés, M.D., and Dr. Christina Rahm Ph.D.

Colon cancer, also known as colorectal cancer, is a malignant neoplasm that originates in the cells lining the large intestine (colon) or the rectum. It is a type of gastrointestinal cancer characterized by the uncontrolled grwoth and proliferation of abnormal cells in the mucosal and submucosal layers of the colon and rectum. Colon Cancer is currently the third most common cancer in both men and women. In 2023, the American Cancer Society estimates that there will be approximately 153,020 new cases diagnosed and 52,550 deaths due to colon cancer in the United States.

At the molecular level, colon cancer typically begins as a benign polyp, which is an abnormal growth of tissue that protrudes from the lining of the colon or rectum. Over time, some of these polyps can undergo genetic mutations that lead to the transformation of normal cells into cancerous cells. These mutations can affect various genes, including those involved in cell cycle regulation, DNA repair, and cell adhesion, ultimately disrupting the normal mechanisms that control cell growth and division. As colon cancer progresses, the cancerous cells can invade the depper layers of the colon or rectum and may eventually spread to nearby lymph nodes and other organs in the body, a process known as metastasis. This metastatic spread can further complicate the disease and make it more challanging to treat.



Colon cancer is a multifactorial disease, with risk factors including genetics, lifestyle factors (such as diet and physical activity), age and certain medical conditions. Early detection through screening tests, such as colonoscopy, can be critical in identifying and treating colon

cancer at an early age and more curable stage. The clinial presentation of colon cancer can vary widely, with symptoms including changes in bowel habits, blood in the stool, abdominal pain, unexplained weight loss, and fatigue. The diagnosis of colon cancer involves a combination of imaging studies, biopsy, and laboratory tests to confirm the presence of cancer and determine its stage and extent. Treatment options for colon cancer may inlcude surgery, chemotherpay, radiation therapy, targeted therapy, and immunotherapy, depending on the stage and location of the cancer.

Case Study

Patient: Male

Age: 72 -year-old

History: He has a history of hypertension which is well-controlled with medications. He has a history of smoking for 30 years and a family history of colon cancer.

Medical history: He complains of abdominal pain, chnages in bowel habits (diarrhea and constipation), and rectal bleeding over the past 3 months. He also reports fatigue and unexplained weight loss of 10 kilograms (22 lbs.) over the past four months.
Colonoscopy shows a large, obstructing mass in the sigmoid colon. Biopsies were taken.

Histopathological analysis of the biopsy confirms the presence of adenocarcinoma in the sigmoid colon.

Stage II colon carcinoma, specifically adenocarcinoma of the sigmoid colon. The cancerous growth has not yet invaded nearby lymph nodes or distant organs.

The patient met Dr. Ketskes 8 months after beginning chemotherapy treatments. Then the following complaints appeared as side effects of the treatment: general weakness, diarrhea, nausea, vomiting, and malaise.

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

Lab Tests:

Mild anemia (low hemoglobin and hematocrit levels).

Haemoglobin: 92 (range 120-160 g/l)

Haematocrit: 0,25 (range 0,36-0,47 l/l)

High inflammatory parameter:

Higher WBC (white blood cells): 15,2 (range 4,8-10,8 G/L)
CRP: 75 mg/l, (range 0- 5,0)

Higher liver enzyme levels: ASAT:97(U/L) (range 0-50), ALAT:96 (U/L) (range 0-50), GGTP: 100 (range 8-50 U/l)

Treatment/Method:

Proprietary blend I: 2x8 drops, morning and evening, for 3 days, then every 3 days then increased by 1-1 drops every 3 days to 2x10

Proprietary blend II: 1 capsule in the morning for 7 days, then 2, 1 capsule in the morning and 1 capsule in the afternoon

Proprietary blend III: 1 sachet in the morning for 7 days then 1 sachet in the morning and 1 sachet in the evening

Proprietary blend IV: 1/2 teaspoon in the morning

Proprietary blend V: 1 teaspoon in the morning for 7 days, then 2 teaspoons, 1 in the morning and 1 in the evening

Proprietary blend VI: 2 capsules in the morning and 1 in the evening for 7 days, then 2 capsules in the morning and 2 capsules in the evening

Additional Treatment: A special diet based on Dr. Ketskes' personal experience of over 10 years. Excerises to achieve a positive mental and emotional state. The Patient is now undergoing chemotherapy and my suggested complimentary treatments.

Results:

After 2 months:

Laboratory: higher WBC (white blood cells): 15,2-9,6 (range 4,8-10,8 G/L) high inflammatory parameter (CRP: 75-28 mg/l, normal up to 5,0) and higher liver enzyme levels: ASAT:97-55 (U/L) (range 0-50), ALAT: 96-58, range (0-50), GGTP: 100-62, (range 8-50 U/l)

Haemoglobin: 92-110 (range 120-160 g/l)

Haematocrit: 0,25-0,30 (range 0,36-0,47 l/l)

Complaints have been greatly reduced. Diarrhea and vomiting have stopped. The extreme fatigue decreased, his appetite improved, and his dyspnea improved. Overall he is feeling well.

References

Frugé, A. D., Smith, K. S., Riviere, A. J., Tenpenny-Chigas, R., Demark-Wahnefried, W., Arthur, A. E., Murrah, W. M., van der Pol, W. J., Jasper, S. L., Morrow, C. D., Arnold, R. D., & Braxton-Lloyd, K. (2021). A Dietary Intervention High in Green Leafy Vegetables Reduces Oxidative DNA Damage in Adults at Increased Risk of Colorectal Cancer: Biological Outcomes of the Randomized Controlled Meat and Three Greens (M3G) Feasibility Trial. *Nutrients*, *13*(4), 1220. https://doi.org/10.3390/nu13041220

Ojo, O. A., Adeyemo, T. R., Rotimi, D., Batiha, G. E., Mostafa-Hedeab, G., Iyobhebhe, M. E., Elebiyo, T. C., Atunwa, B., Ojo, A. B., Lima, C. M. G., & Conte-Junior, C. A. (2022). Anticancer Properties of Curcumin Against Colorectal Cancer: A Review. *Frontiers in oncology*, *12*, 881641. https://doi.org/10.3389/fonc.2022.881641

Shang, F., Jiang, X., Wang, H., Chen, S., Wang, X., Liu, Y., Guo, S., Li, D., Yu, W., Zhao, Z., & Wang, G. (2020). The inhibitory effects of probiotics on colon cancer cells: *in vitro* and *in vivo* studies. *Journal Of Gastrointestinal Oncology, 11*(6), 1224-1232. doi:10.21037/jgo-20-573

Wijewantha, N., Eikanger, M. M., Antony, R. M., Potts, R. A., Rezvani, K., & Sereda, G. (2021). Targeting Colon Cancer Cells with Enzyme-Triggered Casein-Gated Release of Cargo from Mesoporous Silica-Based Nanoparticles. *Bioconjugate chemistry*, *32*(11), 2353–2365. https://doi.org/10.1021/acs.bioconjchem.1c00416

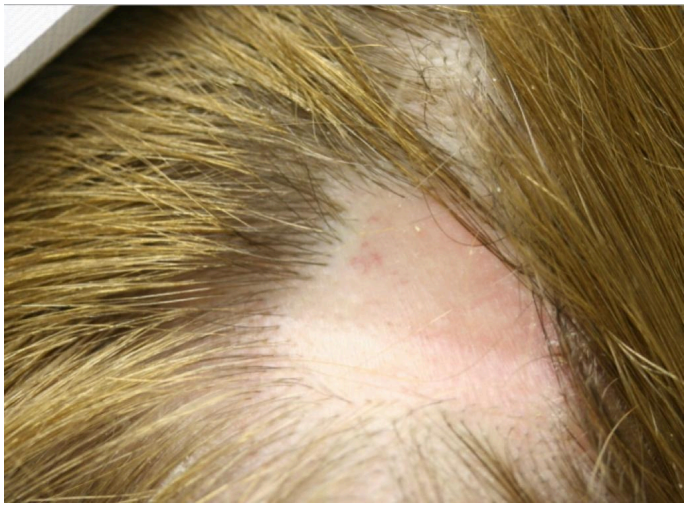
ISNS Case Study

Childhood Alopecia

By Dr. Tina Bozicnik, M.D., Dr. Norbert Ketskés, M.D., Dr. Dori Naerbo, Ph.D., and Dr. Christina Rahm Ph.D.

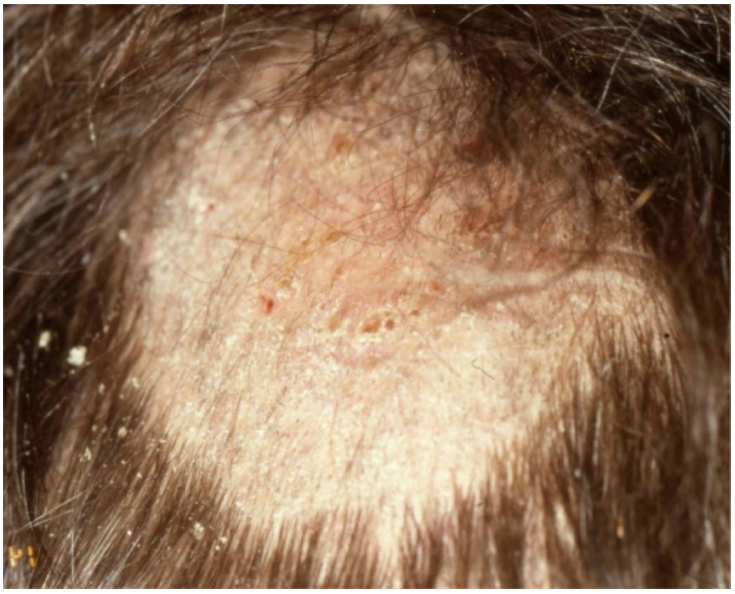
Alopecia areata is a disease that occurs when the immune system attacks hair follicles and causes hair loss. Hair follicles are the structures in skin that form hair. While hair can be lost from any part of the body, alopecia areata usually affects the head and face. Hair typically falls out in small, round patches about the size of a quarter, but in some cases, hair loss is more extensive. Most people with the disease are healthy and have no other symptoms. The course of alopecia areata varies from person to person. Some have bouts of hair loss throughout their lives, while others only have one episode.

Recovery is unpredictable too, with hair regrowing fully in some people but not others. There is no cure for alopecia areata, but there are treatments that help hair grow back quicker.



Anyone can develop alopecia areata. Men and women get it equally, and it affects all racial and ethnic groups. The onset can be at any age, but most people develop it in their teens, twenties, or thirties. When it occurs in children under the age of 10, it tends to be more extensive and progressive. If you have a close family member with the disease, you may have a higher risk of getting it, but for many people, there is no family history. Scientists have linked several genes to the disease, which suggests that genetics play a role in alopecia areata. Many genes they have found are important for the functioning of the immune system. People with certain autoimmune diseases, such as psoriasis, thyroid disease, or vitiligo, are more likely to get alopecia areata, as are those with allergic conditions such as hay fever. The most common causes 90-95% are caused by alopecia areata- an autoimmune attack on

the hair follicles. Loss of hair patches can progress to alopecia totalis, which is determined as hair loss on the entire scalp.



There are different types of this condition. Alopecia areata is the most common in its main form, but there are other, more rare types. Patchy alopecia areata, which is most common, hair loss happens in one or more coin-sized patches on the scalp or other parts of the body. In alopecia totalis, people lose all or nearly all of the hair on their scalp. Alopecia universalis, in this type, which is rare, there is complete or nearly complete loss of hair on the scalp, face, and the rest of their body. Diffuse alopecia areata is a sudden thinning of the hair rather than lost patches. Ophiasis alopecia areata causes hair loss in a band shape around the sides and back of the head.

Alopecia areata occurs when the immune system mistakenly attacks the tissues that grow hair (follicles). This condition is not contagious, and children of any age can get alopecia areata. Children lose between 50-100 strands of hair everyday. Normally, new strands start growing from the same hair follicle. When Children have alopecia areata, their immune system mistakenly sees hair follicles as a threat and attacks them. This causes their hair to fall out.

Trichotillomania is a mental disorder that involves recurrent, irresistible urges to pull out hair from the scalp, eyebrows, or other areas of the body, despite trying to stop. Rarer reasons for alopecia in children include pressure-induced alopecia, alopecia related nutritional deficiency or toxic ingestion, toxicity, and androgenetic alopecia. Congenital lesions should be considered for areas of localized alopecia occurring at birth. Some cases of alopecia areata were reported in the neonatal period- autoimmune cause is suspected. Androgenic alopecia is often under-recognized in children. Hormone disbalance-DHT (dihydrotestosterone in particular) attacks the hair follicles and causes them to fall out and stop growing.

Alopecia areata typically affects hair, but in some cases, there are nail changes as well. Nail changes such as ridges and pits occur in some people, especially those who have more extensive hair loss. People with the disease are usually healthy and have no other symptoms. Alopecia usually begins with sudden hair loss of round or oval patches of hair on the scalp, but any part of the body can be affected, such as the beard area in men, or the eyebrows or eyelashes.

Around the edges of the patch, there are often short broken hairs or “exclamation point” hairs that are narrower at their base than their tip. There is usually no sign of rash, redness, or scarring on the bare patches. Some people say they feel tingling, burning, or itching on the patches of skin right before the hair falls out. When a bare patch develops, it is hard to predict what will happen next. The possibilities include the hair regrowing within a few months and it may look white or gray at first but may regain its natural color over time. Additional bare patches may develop. Sometimes hair regrows in the first patch while new bare patches form. Small patches join to form larger ones. In rare cases, hair is eventually lost from the entire scalp, called alopecia totalis. There may be a progression to complete loss of body hair, a type of the disease called alopecia universalis, which is rare. In most cases, the hair regrows, but there may be subsequent episodes of hair loss.

Case Study

Patient: Male

Age: 4-year-old

History: 4-year-old boy presented a case of alopecia areata that progressed almost to alopecia totalis. He was healthy before without any known allergies or problems. The mother reports that a few weeks after vaccination his hair started to fall out and progressed to almost the entire scalp very quickly. Conventional prescribed treatments were not working.

Treatment/Method: As he came in for integrative whole-body examination and a personalized treatment with proprietary blends was started.

LEGEND:

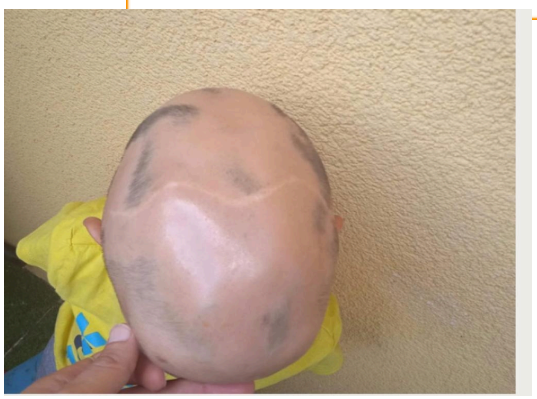
Proprietary blend 1: silica, vitamin c, and trace minerals.

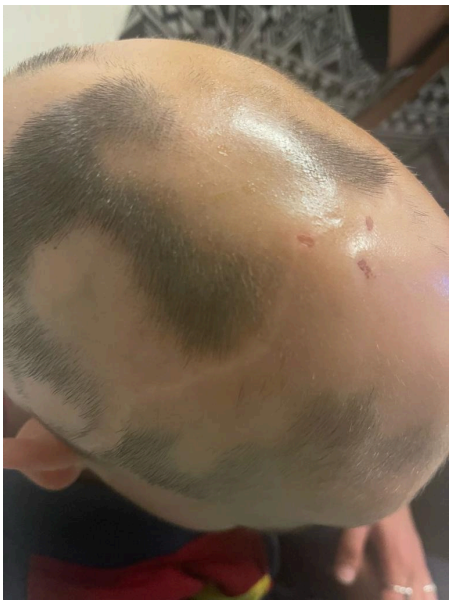
Proprietary blend 2: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend 3: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Results:

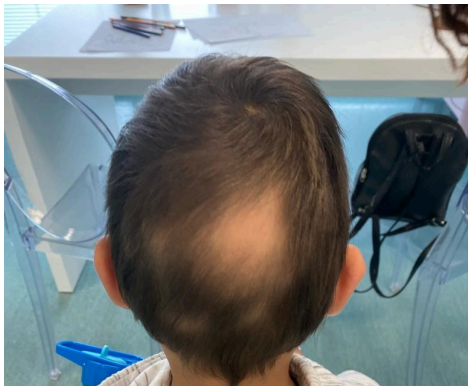
Before starting conventional treatment:

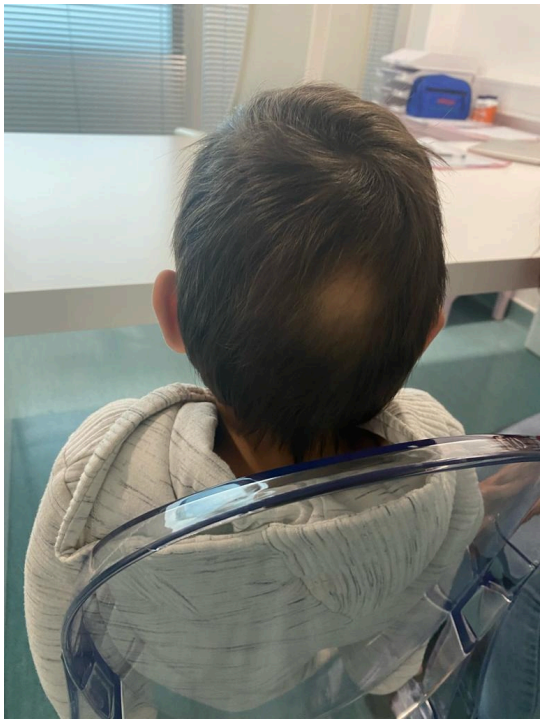




Progression after conventional treatment started

Proprietary Blend No. I was administered: Progression after administering 1 of 5 proprietary Root blends.





Progression after 5 months of conventional treatment

References

Almohanna, H.M., Ahmed, A.A., Tsatalis, J.P. et al. The Role of Vitamins and Minerals in Hair Loss: A Review. Dermatol Ther (Heidelb) 9, 51–70 (2019). https://doi.org/10.1007/s13555-018-0278-6

Alopecia in children: the most common causes, V Atton et al. Pediatr Rev. 1990 Jul. 12(1):25-30. doi: 10.1542/pir.12-1-25

Castelo-Soccio L. Diagnosis and management of alopecia in children. Pediatr Clin North Am. 2014 Apr;61(2):427-42. doi: 10.1016/j.pcl.2013.12.002. Epub 2014 Jan 21. PMID: 24636654 .

Darwin E, Hirt PA, Fertig R, Doliner B, Delcanto G, Jimenez JJ. Alopecia Areata: Review of Epidemiology, Clinical Features, Pathogenesis, and New Treatment Options. Int J Trichology. 2018 Mar-Apr;10(2):51-60. doi: 10.4103/ijt.ijt_99_17. PMID: 29769777; PMCID: PMC5939003.

Diagnosis and management of alopecia in children. Leslie Castelo-Soccio. Pediatr Clin North Am. 2014 Apr;61(2):427-42

Goluch-Koniuszy, Z. S. (2016). Nutrition of women with hair loss problem during the period of menopause. Przeglad menopauzalny= Menopause review, 15(1), 56.

Guo, E. L., & Katta, R. (2017). Diet and hair loss: effects of nutrient deficiency and supplement use. Dermatology practical & conceptual, 7(1), 1.

Management of tinea capitis in childhood. July 2010Clinical, Cosmetic and Investigational Dermatology 3(default):89-98

Pediatric androgenic alopecia: A review. Jacob Griggs et al. J Am Acad Dermatol. 2021 Nov.

ISNS Case Study

Eczema

By Dr. Norbert Ketskés, M.D., and Dr. Christina Rahm Ph.D.

Eczema, or atopic dermatitis, is a very common chronic skin disease that can develop during childhood, adolescence, or adulthood, and it can range from mild to severe. It is so common that 31 million Americans have some form of eczema. Usually, it affects children the most, and in many cases, it can disappear with age. The exact cause of eczema is still not determined, but researchers believe it arises from interactions between genes and environmental triggers.

Eczema is a condition that causes your skin to become dry, itchy, and bumpy. This condition weakens your skin's barrier function, which is responsible for helping your skin retain moisture and protecting your body from outside elements. Eczema is a type of dermatitis. Dermatitis is a group of conditions that cause skin-inflammation. Atopic dermatitis, the most common type of eczema (sometimes referred to as "atopic eczema"), results from an overactive immune system that causes the skin barrier to become dry and itchy. Eczema is not contagious. You can't catch it from someone else. While the exact cause of eczema is unknown, researchers do know that people develop eczema because of an interaction between genes and environmental triggers. Many people with eczema often report comorbid symptoms of hay fever, allergic asthma and food allergies. Proper, consistent skin care is essential in the prevention and management of eczema.

Atopic dermatitis or eczema, is the most common type of eczema. It results from an overactive immune system that causes the skin barrier to become dry and itchy. This condition can occur on any part of the body and has varied symptoms. Many factors can contribute to eczema, including an interaction between your environment and your genes. When an irritant or an allergen from outside or inside the body "switches on" the immune system, it produces inflammation, or a flare-up, on the surface of the skin. This inflammation

causes the symptoms common to most types of eczema. Creases of the skin, especially the flexural areas behind the knees, elbows, lower legs and other areas of the skin that rub against each other can lead to irritation. There is also a potential genetic component to eczema that includes a protein called “filaggrin” that helps maintain moisture in your skin; a filaggrin deficiency, can lead to drier, itchier skin. If you have a family member with atopic dermatitis and other types of eczema you may be at risk. Along with having a family history of eczema, many common household items are also potential environmental irritants and can cause allergic reactions leading to an eczema flare. Additional common triggers of eczema include some types of sopas, shampoos, bubble bath products, body wash and facial cleanser. Laundry detergents and fabric softeners with chemical additives. Certain fabrics like wool or polyester in clothing and sheets. Surface cleaners and disinfectants. Natural liquids like juice from fruit, vegetables, and meats. Fragrances in candles. Metals especially nickel, in jewelry or utensils. Emotional stress can also trigger an eczema flare-up, but it’s not exactly known why. Some people’s eczema symptoms and flare-ups get worse when they’re feeling “stressed.” Others may become stressed, just knowing they have eczema, and this can make their skin flare up.

The most important thing to remember is that eczema and its symptoms are different for everyone. Every individual’s skin care routine will also impact the affected areas of the skin differently. Your eczema may not look the same on you as it does on another adult or on your child. Different types of eczema may even appear in different affected areas of the body at different times. Some people mistake symptoms of psoriasis for eczema, although the two conditions are different. Many people with eczema also report similar symptoms to hay fever, allergic asthma and food allergies. Proper, consistent skin care is essential in prevention and management of eczema. Eczema almost always includes itchy skin. The scientific term for itch is “pruritus.” For many people, the itch can range from mild to moderate. Sometimes the itch gets
so bad that people scratch it until it bleeds. This is called the “itch-scratch cycle.” Symptoms of eczema include itch, dryness, sensitive skin, inflamed, discolored skin, rough, leathery or scaly skin appearing as scaly patches, oozing or crusting, and areas of swelling.

Our skin is made up of an outer layer (epidermis), a middle layer (dermis) and an inner layer (subcutaneous layer). This outer layer has different layers too: the basal layer, the spinous or prickle-cell layer, and the corneal or horny layer. The corneal layer - the visible

part of the skin - protects the body from germs. It renews itself constantly as new cells grow from the basal layer. In people with eczema, the corneal layer doesn't provide enough protection because it is damaged by the inflammatory response occurring in the skin. Another possible cause is a mutated gene that affects the production of the protein filaggrin, which the body needs to make the skin's outer layer. Because there isn't enough filaggrin, the balance of fats in the skin changes, causing the skin to lose a lot of moisture.

Currently, there is no cure for eczema, but there are ways to prevent flare-ups and treatments to manage it. To prevent flare-ups, avoid allergens, change dietary habits, moisturize the skin, avoid stress and anxiety, heavy sweating, or certain scents or fabrics. Treatments for eczema, depending on age and severity, include over-the-counter (OTC) remedies, topical medication, phototherapy, immunosuppressants, and biologic drugs. If not treated properly, bacteria can sometimes cause infection to the skin. Many people look for alternative treatments such as herbal products or dietary supplements to manage this disease, but there has not been enough research to prove its efficacy.

Case Study

Patient: Female

Age: 36-year-old

History: No significant medical history; no previous skin conditions
Her family history revealed that her mother had a history of atopic dermatitis (eczema) during her childhood, although it had improved significantly as she grew older.

Symptoms: She has persistent and itchy skin rashes on various parts of her body, including the inside of her elbows, back of her knees, and neck. The symptoms started approximately 10 months ago and has been experiencing recurring episodes.

Physical examination (Dermatologist): The specific locations of the rashes and the characteristic appearance of the skin lesions pointed towards eczema.

Allergy testing: Since eczema is often associated with allergies, she underwent allergy testing to identify any potential triggers. The tests revealed sensitivity to dust mites, dog, cat hair, and certain tree pollen.

Treatment/Method: She avoided allergens, took antihistamines such as cetirizine or loratadine as needed. Antihistamines can help alleviate itching.

She received proprietary blends.
Proprietary Blend I: 2x5 drops, morning and evening, for 3 days, then every 3 days she increased her dose by 1 drop every 3 days until reaching 2 x 10 drops
Proprietary Blend II: 2 in the morning
Proprietary Blend III: 1 sachet in the morning for 3 days, then 1 sachet in the morning and 1 sachet in the evening.
Proprietary Blend IV: ½ teaspoon in the morning.
Proprietary Blend V: 1 teaspoon in the in the evening for 7 days, then 1 teaspoon in the morning and 1 teaspoon in the evening
Proprietary Blend VI: 1 in the morning and 1 in the evening

Additional treatment: A special gluten free diet was implemented as well to improve the state of the digestive system, which is extremely important.

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

Results: After 1 month of treatment the eczema symptoms improved significantly. The red, inflamed patches on the skin have reduced, the itching has also decreased. The frequency and severity of her flare-ups have also decreased.

After 2 months of treatment her symptoms improved significantly and the itching has completely stopped. She has not had any flare-ups in the second month. She has been able to steadily reduce her medication and she is able to live a more comfortable and symptom-free life.

References

Cologne, Germany: Institute for Quality and Efficiency in Health Care (IQWiG); 2006-. Eczema: Overview. 2013 Sep 26 [Updated 2017 Feb 23]. Available from: https://www.ncbi.nlm.nih.gov/books/NBK279399/

Nasiri, N., Ilaghi Nezhad, M., Sharififar, F., Khazaneha, M., Najafzadeh, M. J., & Mohamadi, N. (2022). The Therapeutic Effects of *Nigella sativa* on Skin Disease: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Evidence-based complementary and alternative medicine : eCAM*, *2022*, 7993579. https://doi.org/10.1155/2022/7993579

Peate I. (2011). Eczema: causes, symptoms and treatment in the community. *British journal of community nursing*, *16*(7), 324–331. https://doi.org/10.12968/bjcn.2011.16.7.324

Sohn, A., Frankel, A., Patel, R. V., & Goldenberg, G. (2011). Eczema. *The Mount Sinai journal of medicine, New York*, *78*(5), 730–739. https://doi.org/10.1002/msj.20289

Vollono, L., Falconi, M., Gaziano, R., Iacovelli, F., Dika, E., Terracciano, C., Bianchi, L., & Campione, E. (2019). Potential of Curcumin in Skin Disorders. *Nutrients*, *11*(9), 2169. https://doi.org/10.3390/nu11092169

ISNS Case Study

Gluten Sensitivity

By Dr. Norbert Ketskés, M.D., and Dr. Christina Rahm Ph.D.

Gluten intolerance, commonly referred to as non-celiac gluten sensitivity (NCGS), is a clinical condition characterized by a range of adverse symptoms occurring after the consumption of gluten-containing foods, despite the absence of celiac disease or wheat allergy. Gluten, a composite of proteins found in wheat, barley, and rye, is a key component in various food products, providing elasticity and structure to baked goods. In individuals with gluten intolerance, the consumption of gluten triggers a myriad of gastrointestinal and extra-intestinal symptoms, such as abdominal pain, bloating, diarrhea, headaches, and fatigue. Despite its distinction from celiac disease and wheat allergy, the exact mechanisms underlying NCGS remain elusive. Research suggests that a complex interplay of factors, including innate immune responses, gut microbiota composition, and gastrointestinal barrier function, may contribute to development of symptoms. It is hypothesized that certain components of gluten, such as fructans and amylase trypsin inhibitors, might evoke immune reactions and disrupt gut homeostasis, ultimately leading to the observed symptoms. Further research is needed to comprehensively understand the pathophysiology of gluten intolerance and its underlying causes, enabling the development of effective diagnostic methods and therapeutic strategies for afflicted individuals.

Gluten intolerance, celiac disease, and wheat allergies are distinct conditions that involve adverse reactions to components present in wheat and related grains. Celiac disease is an autoimmune disorder characterized by a heightened immune response to gluten, specifically targeting the small intestine's lining. This immune reaction leads to inflammation. tissue damage, and malabsorption of nutrients, resulting in a range of gastrointestinal and systemic symptoms. Celiac disease is characterized by specific biomarkers like tissue transglutaminase antibodies and intestinal damage evident in biopsy samples. In contrast, gluten intolerance lacks the autoimmune component seen in celiac disease. Individuals with NCGS experience gastro intestinal and extraintestinal symptoms after consuming gluten, but unlike celiac disease, they do not exhibit the same immune-mediated damage to the intestinal lining. Wheat allergies, on the other hand, involve an immune response to proteins in wheat, triggering symptoms that can range from mild itching to severe anaphylaxis. Unlike gluten intolerance, wheat allergies are characterized by specific immunoglobulin E (IgE) antibodies.

The causes of gluten sensitivity remain an area of ongoing research and investigation. While the precise mechanisms underlying NCGS are not fully understood, several potential factors have been proposed. One hypothesis is that certain components of gluten, such as specific proteins or peptides, might interact with the immune system and trigger an inflammatory response in susceptible individuals. Additionally, it is suggested that the gastrointestinal tract's barrier function may play a role, as alterations in intestinal permeability could lead to the passage of larger gluten molecules into the bloodstream, potentially inciting immune reactions. The gut microbiota, which has a substantial influence on immune regulation and gut health, may also contribute to NCGS development. Changes in the composition of the gut microbiota could potentially influence how the immune system interacts with gluten. Genetic predisposition is another area of interest, as some studies have suggested that certain genetic markers might be associated with an increased risk of NCGS. Furthermore, the overall gut environment and factors such as stress, diet, and other underlying health conditions might influence an individual's susceptibility to gluten sensitivity. Overall, while these hypotheses provide insights into potential causes of gluten sensitivity, further research is needed to unravel the complex interplay of these factors and to establish a comprehensive understanding of the condition's etiology.

Your healthcare provider will meticulously assess your symptoms and medical history to ascertain the possibility of gluten intolerance. Should such suspicion arise, a systemic approach will be taken to validate the diagnosis. Firstly, you will be instructed to consume a diet containing gluten for a duration of 6 weeks. During this period, your doctor will conduct blood tests and skin tests to eliminate the likelihood of wheat allergy or celiac disease, both of which necessitate distinct medical management. Notably, no definitive test currently exists to confirm gluten intolerance. Should wheat allergy and celiac disease be ruled out, you will be advised to exclude gluten from your diet for a minimum of 6 weeks. Throughout this period, meticulous documentation of your symptoms will be essential, allowing you to monitor any improvements that may occur. If a reduction in symptoms is observed while adhering to a gluten-free regimen, a controlled process of gradually reintroducing gluten into your diet will follow. The recurrence of symptoms upon gluten reintroduction would strongly indicate the presence of gluten intolerance. This comprehensive approach ensures an accurate diagnosis by systematically eliminating other potential causes and effectively evaluating your response to dietary adjustments. The management of gluten intolerance lacks a definitive curative approach. The primary strategy for alleviating symptoms involves the adoption of a gluten-free diet, which has demonstrated efficacy in ameliorating the adverse effects experienced by most individuals. Collaboration with both a healthcare provider and a registered dietitian is recommended to formulate a tailored dietary plan that effectively addresses individual needs and nutritional requirements. Exploring adjunctive interventions, individuals may inquire about the integration of probiotics into their dietary regimen through consultation with their healthcare provider. Probiotics serve to modulate the composition of beneficial gut microflora, potentially mitigating symptoms such as bloating, gas, and constipation associated with gluten intolerance. Furthermore, an avenue under investigation pertains to the potential benefits of certain enzymes in facilitating gluten digestion. Current research is actively exploring the utility of these enzymes in aiding the breakdown of gluten molecules. However, it is noteworthy that this avenue is still in the investigatory stage, and expert evaluation is essential when considering such treatments. In conclusion, the primary approach to managing gluten intolerance involves adhering to a gluten-free diet, while supplementary interventions such as probiotics and digestive enzymes remain subjects of ongoing study and inquiry, warranting careful consideration and professional guidance.

Case Study

Patient: Female

Age: 38-year-old

History: No significant medical issues in the past.

Symptoms: She has been experiencing recurring gastrointestinal discomfort for the past one year. Her symptoms include bloating, abdominal pain, gas, diarrhea, and occasional headaches. She noticed that these symptoms tend to occur after consuming meals containing wheat-based products like bread, pasta, and cereal. These symptoms have become more frequent and are affecting her daily life, causing her to miss work occasionally.

Clinical Data:
Blood Tests: Negative for celiac disease, but the lab showed signs of iron defiency (Fe: 7,7 mikromol/l norm. Range:10,7-32,2)

Endoscopy: Biopsy,

Elimination Diet: To confirm the diagnosis, doctor recommended an elimination diet. She was asked to remove all gluten-containing foods from her diet for 6 weeks. During this period, her symptoms significantly improved.
Medications: She was prescribed hormonal birth control pills to regulate her menstrual cycles. (PCOS)
Metformin 2x1000mg/day

Treatment/Method: She received proprietary blends.
Proprietary Blend I: 2x5 drops, morning and evening, for 3 days, then every 3 days then increased by 1-1 drops every 3 days to 2x10
Proprietary Blend III: 1/2 sachet in the morning for 7 days then 1 sachet in the morning for 7 days then 1 sachet in the morning and 1 sachet in the evening
Proprietary Blend IV: ½ teaspoon in the morning.
Proprietary Blend V: 1 teaspoon in the in the evening for 7 days, then 1.5 teaspoon in the evening
Proprietary Blend VI: 1 capsule in the morning for 7 days then 1 capsule in the morning and 1 capsule in the evening.

Additional treatment: In addition to dietary measures and proprietary blends, complementary

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

strategies can be incorporated to further enhance the management of gluten intolerance. Engaging in exercises aimed at fostering a positive mental and emotional state, such as practices like yoga, meditation, and breathing exercises, can be valuable tools. These practices contribute to stress management and overall well-being, potentially ameliorating the psychological impact of gluten intolerance. Moreover, the adoption of a regular exercise routine can exert positive effects on both physical and mental health, fostering resilience and aiding in symptom alleviation. Prioritizing sufficient sleep is also essential, as quality sleep plays a crucial role in immune function and overall health. By integrating these holistic approaches, individuals with gluten intolerance can strive for comprehensive well-being that extends beyond dietary considerations.

Results:

After the initial month, a noticeable improvement in her condition was observed. The frequency of symptoms such as bloating, abdominal pain, gas, and diarrhea noticeably diminished, accompanied by a reduction in the occurrence of headaches. Progressing into the second month, a remarkable transformation was noted—her symptoms had entirely subsided. This positive shift in her health not only translated into a cessation of discomfort but also led to a tangible enhancement in her overall quality of life. The improvement was so substantial that she could seamlessly resume her work routine, free from any disruptions that had previously stemmed from her condition.

Control Lab tests:

The iron deficiency condition has normalized.

Fe: 11 mikromol/l (7,7) (norm. Range:10,7-32,2)

References

Calabriso, N., Scoditti, E., Massaro, M., Maffia, M., Chieppa, M., Laddomada, B., & Carluccio, M. A. (2022). Non-Celiac Gluten Sensitivity and Protective Role of Dietary Polyphenols. *Nutrients*, *14*(13), 2679. MDPI AG. Retrieved from http://dx.doi.org/10.3390/nu14132679

Professional, C. C. medical. (n.d.). *Gluten intolerance: Symptoms, test, non-celiac gluten sensitivity*. Cleveland Clinic. https://my.clevelandclinic.org/health/diseases/21622-gluten-intolerance

Roszkowska, A., Pawlicka, M., Mroczek, A., Bałabuszek, K., & Nieradko-Iwanicka, B. (2019). Non-Celiac Gluten Sensitivity: A Review. *Medicina (Kaunas, Lithuania)*, *55*(6), 222. https://doi.org/10.3390/medicina55060222

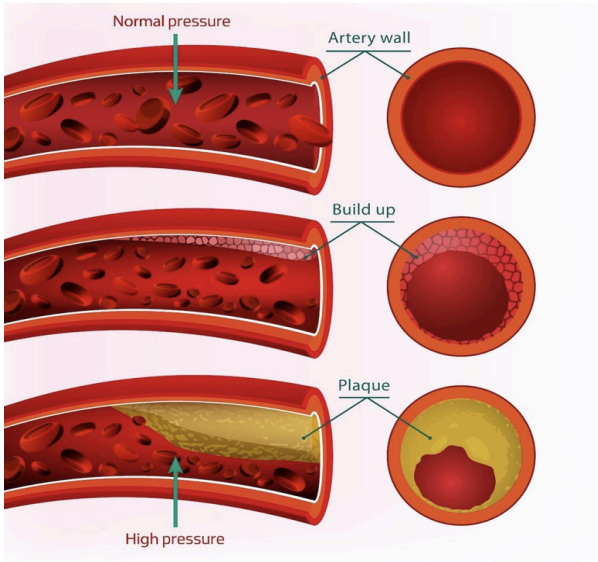
ISNS Case Study

Hypertension

By Dr. Norbert Ketskés, M.D., and Dr. Christina Rahm Ph.D.

High blood pressure is a common condition that affects the body's arteries. It's also called hypertension. If you have high blood pressure the force of blood pushing against the artery walls is consistently too high. The heart must work harder to pump blood. The American College of Cardiology and the American Heart Association divides blood pressure into four general categories. Ideal blood pressure is categorized as normal. Normal blood pressure is 120/80 mm Hg or lower. Elevated blood pressure is where the top number ranges from 120 to 129 mm Hg, and the bottom number is below, not above 80 mm Hg. Stage 1 hypertension is where the top number ranges from 130 to 139 mm Hg, or the bottom number is between 80 to 89 mm Hg. Stage 2 hypertension is where the bottom number is 140 mm Hg or higher, or the bottom number is 90 mm Hg or higher.

Most people with high blood pressure have no symptoms, even if blood pressure readings reach dangerously high levels. You can have high blood pressure for years without any symptoms. Individuals with high blood may experience headaches, shortness of breath, and nosebleeds. These symptoms are not specific. They usually do not occur until high blood pressure has reached a severe or life-threatening stage.



Blood pressure is determined by two things: the amount of blood the heart pumps and how hard it is for the blood to move through the arteries. The more blood the heart pumps and the narrower the arteries, the higher the blood pressure. There are two types of high blood pressure; primary hypertension, also called essential hypertension, and secondary hypertension. Primary hypertension tends to develop gradually over many years. Plaque buildup in the arteries called atherosclerosis, increases the risk of high blood pressure. Secondary hypertension is caused by an underlying condition. It tends to appear suddenly and cause higher blood pressure than primary hypertension. Conditions and medications that can lead to secondary hypertension include

adrenal tumors, blood vessel problems present at birth, also called congenital heart defects, cough and cold medicines, some pain relievers, birth control pills, kidney disease, obstructive sleep apnea, and thyroid problems. Sometimes getting a health checkup causes blood pressure to increase, this is called white-coat hypertension. High blood pressure has many risk factors including age, race,family history, obesity or being overweight, lack of exercise, too much salt, tobacco use or vaping, low potassium levels, drinking too much alcohol, stress, certain chronic conditions, and pregnancy.

The excessive pressure on the artery walls caused by high blood pressure can damage blood vessels and body organs. The higher the blood pressure and the longer it goes uncontrolled, the greater the damage. Uncontrolled high blood pressure can lead to complications including heart attacks, strokes and aneurysms. The hardening and thickening of the arteries due to high blood pressure or other factors can lead to heart attacks, strokes, or other complications. Increased blood pressure can cause a blood vessel to weaken and bulge, forming an aneurysm. If an aneurysm ruptures, it can be life-threatening. Having high blood pressure causes the heart to work harder to pump blood. The strain causes the walls of the heart's pumping chamber to thicken. This condition is called left ventricular hypertrophy. Eventually, the heart cannot pump enough blood to meet the body's needs, causing heart failure. High blood pressure can cause the blood vessels in the kidneys to become narrow or weak. This can lead to kidney damage. Increased blood pressure can cause thickened, narrow, or torn blood vessels in the eyes. This can result in vision loss. Metabolic syndrome is a group of disorders of the body's metabolism. It involves the irregular breakdown of sugar, also called glucose. The syndrome includes increased waist size, high triglycerides, decreased high-density lipoprotein (HDL "good") cholesterol, high blood pressure, and high blood sugar levels. These conditions make you more likely to develop diabetes, heart disease, and stroke. uncontrolled blood pressure may affect the ability to think, remember, and learn. Narrowed or blocked arteries can limit blood flow to the brain. This can cause a certain type of dementia called vascular dementia. A stroke that interrupts blood flow to the brain can also cause ventricular dementia.

Simple lifestyle changes can help reduce high blood pressure, although some people may need to take medicines as well. Your general physician can advise you about changes you can make to your lifestyle and discuss whether they think you would benefit from medicine. Everyone with high blood pressure is advised to make healthy lifestyle changes. Whether medicine is also recommended depends on your blood pressure reading and your risk of developing problems such as heart disease and strokes. Several types of medicines can be used to help control high blood pressure. Many people take a combination of different medicines. If you are under 55, you will usually be offered an ACE inhibitor or angiotensin-2 receptor blocker (ARB). If you are over 55 or you are any age of African or Caribbean descent, you will usually be offered a calcium channel blocker.

Case Study

Patient: Male

Age: 59 -year-old

History: His father and both grandfathers also had hypertensive syndrome.

Does not exercise, smokes, overweight (BMI: 29 kg/m2), stressful job

Medical history:

He was diagnosed with hypertension 5 years ago

Antihypertensive therapy: combination 3 tablets, which includes 4 different active ingredients: ARB+ Calcium antagonist+Diuretics+Beta blocker (3rd generation)

Blood pressure values: values around 150/95 mmHg, occasionally, especially under stress up to 190/100 mmHg (blood pressure diary)

complaints: frequent headaches, malaise, fatigue

Clinical test:

Labor:

Cholesterol: 6.9 mmol/l * (2.5 - 5.2) Triglyceride: 3.3 mmol/l * (0.1 - 2.3)

HDL cholesterol: 1.30 mmol/l (0.90 - 2.29) LDL-D: 4.25 mmol/l * (1.60 - 3.30)

Treatment/Method:

Proprietary blend I: 2x5 drops, morning and evening, for 3 days, then every 3 days then increased by 1-1 drops every 3 days to 2x10

Proprietary III: 1 sachet in the morning for 7 days then 1 sachet in the morning and 1 sachet in the evening

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

Proprietary blend VII: hydrolyzed bovine collagen and whole bovine colostrum powder

Proprietary blend IV: 1/2 teaspoon in the morning

Proprietary blend V: 1 teaspoon in the evening.

Proprietary blend VI: 1 capsule in the morning and 1 capsule in the evening for 7 days, then 2 capsules in the morning and 1 capsule in the evening

Proprietary blend VII- 1 teaspoon in the morning

Additional Treatment: Reducing salt (3-5 g/day, approximately 1-2 g Na), following a mediterranean diet, focusing on adequate fluid consumption, less or no smoking, increasing physical activity, and focusing on stress relief through meditation and yoga.

Results:

After 2 months:

Blood pressure values: values around 130/80 mmHg (blood pressure diary)

The spikes in blood pressure stopped!

Complaints: frequent headaches have stopped, malaise and tiredness are greatly reduced

Labor control (after 3 months):

Cholesterol: 6.9 mmol/l * -5,3 mmol/l (2.5 - 5.2) Triglyceride: 3.3 mmol/l *-2,5 mmol/l (0.1 - 2.3)

HDL cholesterol: 1.30 mmol/l -2.2 mmol/l (0.90 - 2.29) LDL-D: 4.25 mmol/l * -3,5 mmol/l(1.60 - 3.30)

References

Centers for Disease Control and Prevention. (2021, May 18). *High blood pressure symptoms and causes*. Centers for Disease Control and Prevention. Retrieved April 13, 2023, from https://www.cdc.gov/bloodpressure/about.htm

Hadi, A., Pourmasoumi, M., Ghaedi, E., & Sahebkar, A. (2019). The effect of Curcumin/Turmeric on blood pressure modulation: A systematic review and meta-analysis. *Pharmacological research*, *150*, 104505. https://doi.org/10.1016/j.phrs.2019.104505

Houston M. (2011). The role of magnesium in hypertension and cardiovascular disease. *Journal of clinical hypertension (Greenwich, Conn.)*, *13*(11), 843–847. https://doi.org/10.1111/j.1751-7176.2011.00538.x

Juraschek, S. P., Guallar, E., Appel, L. J., & Miller, E. R., 3rd (2012). Effects of vitamin C supplementation on blood pressure: a meta-analysis of randomized controlled trials. *The American journal of clinical nutrition*, *95*(5), 1079–1088. https://doi.org/10.3945/ajcn.111.027995

ISNS Case Study

Hypothyroidism

By Dr. Norbert Ketskés, M.D., and Dr. Christina Rahm Ph.D.

Hypothyroidism is a common condition where the thyroid does not create and release enough thyroid hormone into the bloodstream. This makes your metabolism slow down. Also called underactive thyroid, hypothyroidism can make you feel tired, gain weight, and be unable to tolerate cold temperatures. The main treatment for hypothyroidism is hormone replacement therapy. Hypothyroidism may not cause noticeable symptoms in its early stages. Over time, hypothyroidism that is not treated can lead to other health problems, such as high cholesterol and heart problems. Blood tests are used to diagnose hypothyroidism.

The thyroid is a small, butterfly-shaped gland located at the front of your neck under your skin. It is part of the endocrine system and controls many of the body's important functions by producing and releasing (secreting) certain hormones. The thyroid's main job is to control the speed of your metabolis (metabolic rate), which is the process of how your body transforms the food you consume into energy. All of the cells in your body need energy to function. When the thyroid is not working properly, it can impact your entire body. Your endocrine system is a network of glands that create and secrete (release) hormones. Hormones are chemicals that coordinate different functions in your body by carrying messages through your blood to your organs, skin, muscles, and other tissues. These signals tell your body what to do and when to do it. As an endocrine gland, your thyroid makes and secretes hormones. The thyroid gland produces and releases the following hormones thyroxine (T4), triiodothyronine (T3), reverse triiodothyronine (RT3), and calcitonin. Thyroxine (T4) is the primary hormone the thyroid makes and releases. Although the thyroid makes most of this hormone, it does not have much of an effect on the metabolism. Once the thyroid releases T4 into the bloodstream, it can convert to T3 through a process called diodination. Triiodothyronine (T3) is produced in lesser amounts than T4, but it has a much greater effect on your metabolism than T4. Reverse

triiodothyronine (RT3) is made in very small amounts, which reverse the effects of T3. Calcitonin is the hormone that regulates the amount of calcium in the blood. In order to make thyroid hormones, your thyroid gland needs iodine, an element found in food (most commonly, iodized table salt) and water. The thyroid gland traps iodine and transforms it into thyroid hormones. The thyroid hormones affect how the body uses energy, heart rate, breathing, digestion, body temperature, brain development, mental activity, fertility, skin and bone maintenance.

The symptoms of hypothyroidism depend on the severity of the condition. Problems tend to develop slowly, often over several years. At first, you may barely notice the symptoms of hypothyroidism, such as fatigue and weight gain or you may think they are just part of getting older. But as your metabolism continues to slow, you may develop more-obvious problems. Hypothyroidism symptoms may include tiredness, sensitivity to cold, constipation, dry skin, puffy face, coarse hair or skin, weight gain, muscle weakness, muscle aches, tenderness, and stiffness, depression, menstrual cycles that are heavier than usual and memory problems. Hypothyroidism can have a primary cause or a secondary cause. A primary cause is a condition that directly impacts the thyroid and causes it to create low levels of thyroid hormones. A secondary cause is something that causes the pituitary gland to fail, which means it can't send thyroid stimulating hormone (TSH) to the thyroid to balance out the thyroid hormones. Primary causes of hypothyroidism are much more common. The most common of these primary causes is an autoimmune condition called Hashimoto's disease. Also called Hashimoto's thyroiditis or chronic lymphocytic thyroiditis, this condition is hereditary. In Hashimoto's disease, the body's immune system attacks and damages the thyroid. This prevents the thyroid from making and releasing enough thyroid hormone. Other primary causes of hypothyroidism can include thyroiditis, treatment of hyperthyroidism, iodine deficiency, and hereditary conditions. The symptoms of hypothyroidism can be different from person to person.They can often look like symptoms of other health problems. Because of that, a diagnosis of hypothyroidism does not rely on symptoms alone. It is usually based on the result of blood tests. The first blood test is typically done to diagnose hypothyroidism and measures the level of thyroid-stimulating hormone (TSH) in the blood. If it's high, the test is done again, along with a blood test for thyroid hormone T4 is low. If the results show that TSH is high and T4 is low, then the diagnosis is hypothyroidism. In some cases, the thyroid hormone T3 may be measured as well. If the second test shows high TSH but T4 and T3 are in standard range, then the diagnosis is a condition called subclinical hypothyroidism. It usually does not cause noticeable symptoms.

Conventional treatment for hypothyroidism usually includes taking the thyroid hormone medicine levothyroxine (Levo-T, Synthroid, and others) every day. This medicine is taken by mouth. It returns hormone levels to a normal level, eliminating the symptoms of hypothyroidism. You will likely start to feel better one or two weeks after you start treatment. Treatment with levothyroxine will be lifelong. Because the dosage you need may change, your health care provider may check your TSH level each year.

Case Study
Patient: Female
Age: 36-year-old
History: Her mother was diagnosed with hypothyroidism when she was in her 50's.
Symptoms: fatigue, weight gain, constipation, thinning hair, hair loss, cold intolerance, depression and problems in the menstrual cycles.
Lab tests:

TSH: 7.38 microIU/ml (normal range: (0.35-4.94) **T4**: 6.08 mg/dl (normal range: 9.01-19.05)
T3: 2.05 mg/ml (normal range: 2.43-6.01)
Anti TPO: 283,5 U/ml (normal range: <5.61) **Medications:** she started on levothyroxine medication. L-thyroxin:100 mikrogram/day

Treatment/Method: She received proprietary blends.
Proprietary Blend I: 2x3 drops, morning and evening, for 3 days, then every 3 days then increased by 1-1 drops every 3 days to 2x10
Proprietary Blend II: 1 in the morning for 7 days, then 2, 1 in the morning and 1 in the afternoon
Proprietary Blend III: 1/2 sachet in the morning for 7 days then 1 sachet in the morning for 7 days then 1 sachet in the morning and 1 sachet in the evening
Proprietary Blend IV: ½ teaspoon in the morning.
Proprietary Blend V: 1 teaspoon in the in the evening for 7 days, then 1.5 teaspoon in the evening
Proprietary Blend VI: 1 in the morning for 7 days then 1 in the morning and 1 in the evening

Additional treatment: Exercises to achieve a positive mental and emotional state (e.g: yoga, meditation, breathing exercises, stress management, regular exercise and adequate sleep. A gluten free and selenium rich diet were also proposed (e.g: fish and other seafood)

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

Results: After 1 month of treatment she noticed an improvement in her energy levels and was able to lose some of the weight she had gained. Her constipation also improved, and she no longer felt cold all the time. After 3 months her symptoms gradually continued to improve. Her energy levels continued to increase, she experienced less hair loss and her mood improved. The functioning of the digestive system and menstrual cycles have returned to normal.

Control Lab tests:

TSH: 4.91 (7.38) mickroIU/ml (normal range: 0.35 -4.94)

T4: 11.21 (6.08) mg/dl (normal range: 9.01-19.05)

T3: 3.81 (2.05) pg/ml (normal range: 2.43-6.01)

Anti TPO: 76.8 (283.5) U/ml (normal range: <5.61)

References

Mackawy, A. M., Al-Ayed, B. M., & Al-Rashidi, B. M. (2013). Vitamin d deficiency and its association with thyroid disease. *International journal of health sciences*, *7*(3), 267–275. https://doi.org/10.12816/0006054

Maxwell, C., & Volpe, S. L. (2007). Effect of zinc supplementation on thyroid hormone function. A case study of two college females. *Annals of nutrition & metabolism*, *51*(2), 188–194. https://doi.org/10.1159/000103324

Professional, C. C. medical. (n.d.). *Hypothyroidism: Symptoms, causes, treatment & medication*. Cleveland Clinic. https://my.clevelandclinic.org/health/diseases/12120-hypothyroidism

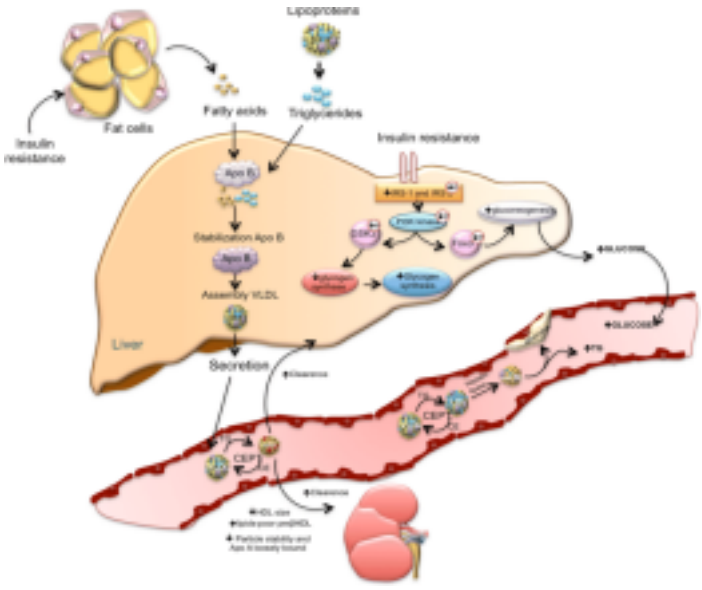
Rezaei, M., Javadmoosavi, S. Y., Mansouri, B., Azadi, N. A., Mehrpour, O., & Nakhaee, S. (2019). Thyroid dysfunction: how concentration of toxic and essential elements contribute to risk of hypothyroidism, hyperthyroidism, and thyroid cancer. *Environmental science and pollution research international*, *26*(35), 35787–35796. https://doi.org/10.1007/s11356-019-06632-7

ISNS Case Study

Insulin Resistance

By Dr. Norbert Ketskés, M.D., and Dr. Christina Rahm Ph.D.

Insulin resistance, also known as impaired insulin sensitivity, happens when cells in your muscles, fat and liver do not respond as they should to insulin, a hormone your pancreas makes that is essential for life and regulating blood glucose (sugar) levels. Insulin resistance can be temporary or chronic and is treatable in some areas. Insulin is a hormone made by the pancreas that helps glucose in your blood enter your cells in your muscle, fat, and liver, where it is used for energy. Glucose comes from the food you eat. The liver also makes glucose in times of need, such as when you are fasting. When blood glucose, also called blood sugar, levels rise after you eat, your pancreas releases insulin into the blood. Insulin then lowers blood glucose to keep it in the normal range.



In the normal course of events, the role of insulin unfolds in a series of crucial steps. Firstly, the food ingested undergoes breakdown into glucose, a vital energy source for the body. This glucose then finds its way into the bloodstream, prompting the pancreas to release insulin. The function of insulin lies in facilitating the entry of glucose from the bloodstream into cells present in muscles, fat, and the liver, where it serves as an energy source or is reserved for later use. Once the cells have taken in glucose and its concentration in the

bloodstream drops, this triggers the pancreas to cease insulin production. However, various factors can lead to an inappropriate response of muscle, fat, and liver cells to insulin, impeding their ability to effectively absorb glucose from the bloodstream. This phenomenon attempts to counteract rising blood glucose levels. This condition is referred to as hyperinsulinemia. As long as the pancreas can make enough insulin to overcome the cell's weak response to insulin, blood sugar levels will stay in a healthy range. If your cells become resistant to insulin, it leads to elevated blood glucose levels (hyperglycemia), which, overtime, leads to prediabetes and Type 2 diabetes. In addition to Type 2 diabetes, insulin resistance is associated with obesity, cardiovascular disease, nonalcoholic fatty liver disease, metabolic syndrome, polycystic ovarian syndrome (PCOS).

Detecting insulin resistance based on how you feel is not possible; a blood test assessing your blood sugar levels is necessary. Similarly, identifying related conditions like high blood pressure, low "good" cholesterol, and high triglycerides - characteristics of insulin resistance syndrome - requires a medical evaluation. Indications of insulin resistance encompass a waistline exceeding 40 inches in men and 35 inches in women, blood pressure readings of 130/80 or above, fasting glucose levels surpassing 100 mg/dL, fasting triglyceride levels over 150 mg/dL, HDL cholesterol levels below 40 mg/dL in men and 50 mg/dL in women, the presence of skin tags, and patches of dark, velvety skin known as acanthosis nigricans.

Factors that can increase the likelihood of developing insulin resistance include obesity, particularly excess abdominal fat. sedentary lifestyle, a diet rich in carbohydrates, a history of gestational diabetes, and underlying health conditions such as nonalcoholic fatty liver disease and polycystic ovarian syndrome. A family history of diabetes, smoking, and specific ethnic backgrounds such as African. Latino, or Native American heritage are also associated with higher risk. Age-wise, the likelihood of insulin resistance rises after age 45, and hormonal disorders like Cushing's syndrome and acromegaly can contribute . Certain medications including steroids, antipsychotics, and HIV medications, along with sleep problems like sleep apnea, further enhance the susceptibility to this condition. Diagnosing insulin resistance involves several steps conducted by healthcare professionals. They will gather information through inquiries about family medical history, perform a physical examination that includes assessing your weight and blood pressure, and
conduct blood tests. The blood tests may encompass the Fasting Plasma Glucose Test, which

measures your blood sugar levels after an 8-hour fasting period. The Oral Glucose Test, involves a fasting glucose test followed by the consumption of a sugary solution, and a subsequent blood test two hours later. Additionally, the Hemoglobin A1c Test will be administered, providing insight into your average blood sugar levels over the past 2-3 months. This test aids in diagnosing prediabetes and assessing diabetes control. In some cases, the test might need to be repeated for result confirmation. The progression of insulin resistance to type 2 diabetes involves a specific set of blood test results that your doctor will examine. These indicators include a fasting plasma glucose test result between 100 and 125, an oral glucose test result ranging from 140 to 199 after the second test, and A1c results falling between 5.7% and 6.4%. In cases where pre diabetes cannot be effectively managed, a diagnosis of type 2 diabetes is established as test levels escalate to a fasting plasma glucose result of 126 or higher, an oral glucose tolerance test result of 200 or higher following a second test, and A1c results of 6.5% or above. These parameters assist in tracking the transition from insulin resistance to full-fledged type 2 diabetes.

To reverse insulin resistance and avert type 2 diabetes, there are proactive measures you can adopt. Engaging in regular exercise, aiming for at least 30 minutes of moderate activity like brisk walking for 5 or more days a week, is crucial. If you are not currently active, gradually work towards this goal. Achieving a healthy weight is also vital. Consult your doctor for guidance on your ideal weight and strategies to reach it. You might consider seeking advice from a nutritionist and a certified personal trainer as well. Prioritize a nourishing diet rich in fruits, vegetables, whole grains, nuts, legumes, fish, lean proteins, and beans. In certain cases, your doctor might recommend medications like metformin (Fortamet, Glucophage, Glutmetza, Riomet) to help manage your blood sugar levels effectively.

Case Study

Patient: Female

Age: 33-year-old

History: She was diagnosed with PCOS at the age of 27 due to irregular periods and ovarian cysts. She was prescribed hormonal birth control pills to regulate her menstrual cycles. She has a family history of type 2 diabetes, with both her mother and father being diagnosed in their 50's

Symptoms: Weight gain, fatigue, hair loss, irregular menstrual cycles. She reports feeling constantly tired, especially after meals.
Clinical Data: weight is 180 lbs. (82 kg) with a height of 5 '6 (167 cm), giving her a BMI of 29.1 (overweight), blood pressure is within normal range. Her fasting glucose level is 115 mg/dL (6.4 mmol/l) (normal range:74-106 mg/dL), (Normal Range: 4.1-5.9 mmol/l) and her hemoglobin A1c level is 6.2% (normal range: <5.7%) HOMA index: 3.5 (calculated value.)
Medications: She was prescribed hormonal birth control pills to regulate her menstrual cycles. (PCOS)
Metformin 2x1000mg/day

Treatment/Method: She received proprietary blends.
Proprietary Blend I: 2x6 drops, morning and evening, for 3 days, then every 3 days then increased by 1-1 drops every 3 days to 2x10
Proprietary Blend II: 1 in the morning
Proprietary Blend III: 1/2 sachet in the morning for 7 days then 1 sachet in the morning for 7 days then 1 sachet in the morning and 1 sachet in the evening
Proprietary Blend IV: ½ teaspoon in the morning.
Proprietary Blend V: 1 teaspoon in the in the evening for 7 days, then 1 teaspoon in the morning and 1 teaspoon in the evening
Proprietary Blend VI: 1 in the morning and 1 in the evening for 7 days then 2 in the morning and 1 in the evening
Additional treatment: Manage stress

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

Results:

After 1 month of treatment her fatigue decreased and weight gain stopped. After 3 months of treatment her unreasonable fatigue is gone. Her weight decreased: 158 lbs (72 kg) from 180 lbs (82 kg).

Control Lab tests:

fasting blood glucose level is 99 mg/dL (5.5mmol/l) (115 mg/dl, 6,4 mmol/l) (normal range: 74-106 mg/dL), (4,1-5,9 mmol/l) and her hemoglobin A1c level is 5.8% (6,2) (normal range: <5,7%), HOMA index:2,5 (calculated value) (3,5)

The dose of metformin could be reduced to 2x500mg (in consultation with the diabetologist) 5

References

American Diabetes Association. Standards of medical care in diabetes—2017. *Diabetes Care.* 2017;40(Suppl 1).

Diabetes Prevention Program Research Group. Long-term effects of lifestyle intervention or metformin on diabetes development and microvascular complications over 15-year follow-up: the Diabetes Prevention Program Outcomes Study. *The Lancet: Diabetes & Endocrinology.* 2015;3(11):866–875.

Ghorbani Z, Hekmatdoost A, Mirmiran P. Anti-hyperglycemic and insulin sensitizer effects of turmeric and its principal constituent curcumin. Int J Endocrinol Metab. 2014 Oct 1;12(4):e18081. doi: 10.5812/ijem.18081. PMID: 25745485; PMCID: PMC4338652.

Morais JBS, Severo JS, de Alencar GRR, de Oliveira ARS, Cruz KJC, Marreiro DDN, Freitas BIJESA, de Carvalho CMR, Martins MDCCE, Frota KMG. Effect of magnesium supplementation on insulin resistance in humans: A systematic review. Nutrition. 2017 Jun;38:54-60. doi: 10.1016/j.nut.2017.01.009. Epub 2017 Feb 2. PMID: 28526383.

National Diabetes Statistics Report, 2017. Centers for Disease Control and Prevention website. https://www.cdc.gov/diabetes/data/statistics/statistics-report.html External link. Updated July 17, 2017. Accessed October 19, 2017.

Zhao L, Zou T, Gomez NA, Wang B, Zhu MJ, Du M. Raspberry alleviates obesity-induced inflammation and insulin resistance in skeletal muscle through activation of AMP-activated protein kinase (AMPK) α1. Nutr Diabetes. 2018 Jul 2;8(1):39. doi: 10.1038/s41387-018-0049-6. PMID: 29961765; PMCID: PMC6026595.

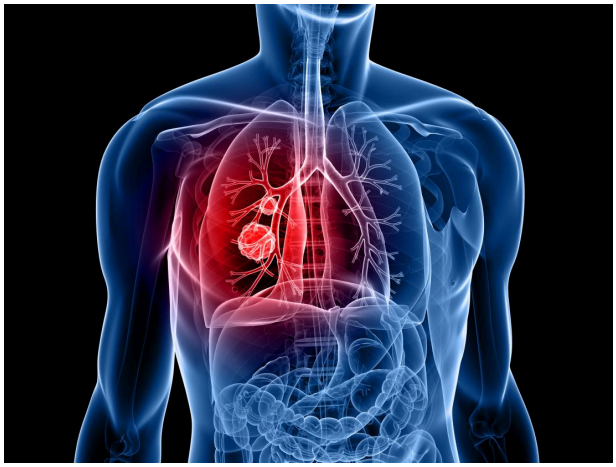
ISNS Case Study

Lung Cancer

By Dr. Tina Bozicnik, M.D., Dr. Norbert Ketskés, M.D., Dr. Dori Naerbo, Ph.D., and Dr. Christina Rahm Ph.D.

Lung cancer begins in the lungs and may spread to the lymph nodes or other organs in the body, such as the brain. Cancer from other organs also may spread to the lungs. When cancer cells spread from one organ to another, they are called metastases.

There are two main types of lung cancer: Non-small cell lung cancer and small cell lung cancer. Each has a separate staging system that doctors use to classify how advanced the cancer is. Staging helps the doctors predict the likely outlook for a person who has lung cancer. It can also help them develop the best possible plan.



According to the American Cancer Society (ACS), non-small cell lung cancer (NSCLC) accounts for 80-85% of lung cancer cases. The three main subtypes are adenocarcinoma, squamous cell carcinoma, and large cell carcinoma. Adenocarcinomas account for about 40% of people with lung cancer. It usually develops in the outer parts of the lung and tends to grow slower than the other two subtypes. Squamous cell carcinomas account for 25-30% of lung cancers. It grows from the cells that line the inside of the airways. Squamous cell carcinoma usually develops at the center of the lung. Large cell carcinoma accounts for about 1-15% of lung cancers and can grow in any part of the lung and tends to grow faster than the other subtypes. Small cell lung cancer is a disease in which malignant (cancer) cells form in the tissues of the lung. There are two main types of small cell lung cancer which are small cell carcinomas and combined small cell carcinoma. Smoking is the major risk for small cell lung cancer. Signs and symptoms include coughing and shortness of breath.

Different people experience different symptoms for lung cancer. Some people have symptoms related to the lungs. Some people whose lung cancer has spread to other parts of the body (metastasized) have symptoms specific to that part of the body. Some people have general symptoms of not feeling well. Most people with lung cancer do not have symptoms until the cancer is advanced. Lung cancer symptoms may include coughing that gets worse or does not go away, chest pain, wheezing, coughing up blood, feeling tired all the time, and weight loss with no known cause. Other changes that can sometimes occur with lung cancer may include repeated bouts of pneumonia and swollen or enlarged lymph nodes (glands) inside the chest in the area between the lungs.

Case Study

Patient: Female

Age: 55-year-old

History: She had no known illnesses. She smoked 20 cigarettes per day for 20 years. In February 2022, there was an infection with Covid-19. In the spring of 2022, she was investigated for post-Covid syndrome (prolonged cough, difficulty breathing, weakness, wheezing). On the chest CT, on the right side, in the lower lobe, approximately a 25 x 20 mm irregularly contoured peripheral soft tissue mass, abnormally sized right hilar and mediastinal lymph nodes, and right chest fluid were depicted, and pulmonary metastases were suspected. PET CT a malignant space occupation of the right lower lung lobe, intrapulmonary and pleural metastasis, mediastino-hilar spread and multiple osseous propagation can be evaluated.
Oncologist Team: IV stage NSCLC adenocarcinoma, pleural, intrapulmonary. Involvement- palliative systemic treatment is recommended. In June 2022, carboplatin-pemetrexed-pembrolizumab treatment was started. Chest pumping was needed several times.

Complaints: Nausea, diarrhea, extreme weakness, loss of appetite, dyspnea (labored breathing)

Laboratory tests: higher WBC (white blood cells): 15,4 (range 4,8-10,8 G/L) high inflammatory parameter (CRP: 87 mg/l normal up to 5,0) and higher liver enzymes levels: ASAT: 98 (U/L) (range 0-50), ALAT: 88, range (0-50), GGTP: 126 (range 8-50 U/l)

Treatment/Method:

Proprietary blend I: 2 x 6 drops in the morning and evening, for 3 days, then every 3 days then increased by 1-1 drops every 3 days to 2 x 12-15.

Proprietary blend III: ½ sachet in the morning for 3 days then 1 sachet in the morning for 3 days then 1 sachet in the morning and 1 sachet in the evening for 3 days, then 2 sachets in the morning and 1 sachet in the evening.

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

Proprietary V: 1 teaspoon in the evening for 3 days, then 1 teaspoon in the morning and 1 teaspoon in the evening.

Proprietary blend VI: 2 in the morning and 2 in the evening.

Additional Proposal: She could not have a special diet because she could not eat anything. Exercises to achieve a positive mental and emotional state (e.g: meditation and breathing exercises.)

Results: After 3 months of complementary therapy. She received chemotherapy treatment continuously.
Laboratory tests: higher WBC (white blood cells): 15, 4-10,2 (range 4,8-10 G/L) high inflammatory parameter CRP: 87-28 mg/l (normal up to 5,0) and higher liver enzyme levels: ASAT: 98 -45 (U/L) (range 0-50), ALAT: 88-38, range (0-50), GGTP: 126-70, (range 8-50 U/l). Other control examinations (CT, PET CT) were not performed due to the palliative treatment. Complaints have been reduced. Nausea and diarrhea have stopped. The extreme fatigue has decreased, her appetite improved, and her dyspnea improved. The frequency of chest pumping has decreased. Overall she is feeling well.

References

Albanes, D., Heinonen, O. P., Taylor, P. R., Virtamo, J., Edwards, B. K., Rautalahti, M., Hartman, A. M., Palmgren, J., Freedman, L. S., Haapakoski, J., Barrett, M. J., Pietinen, P., Malila, N., Tala, E., Liippo, K., Salomaa, E. R., Tangrea, J. A., Teppo, L., Askin, F. B., Taskinen, E., … Huttunen, J. K. (1996). Alpha-Tocopherol and beta-carotene supplements and lung cancer incidence in the alpha-tocopherol, beta-carotene cancer prevention study: effects of base-line characteristics and study compliance. *Journal of the National Cancer Institute*, *88*(21), 1560–1570. https://doi.org/10.1093/jnci/88.21.1560

Khan, M. A., Chen, H. C., Tania, M., & Zhang, D. Z. (2011). Anticancer activities of Nigella sativa (black cumin). *African journal of traditional, complementary, and alternative medicines : AJTCAM*, *8*(5 Suppl), 226–232. https://doi.org/10.4314/ajtcam.v8i5S.10

Takata, Y., Xiang, Y. B., Yang, G., Li, H., Gao, J., Cai, H., Gao, Y. T., Zheng, W., & Shu, X. O. (2013). Intakes of fruits, vegetables, and related vitamins and lung cancer risk: results from the Shanghai Men's Health Study (2002-2009). *Nutrition and cancer*, *65*(1), 51–61. https://doi.org/10.1080/01635581.2013.741757

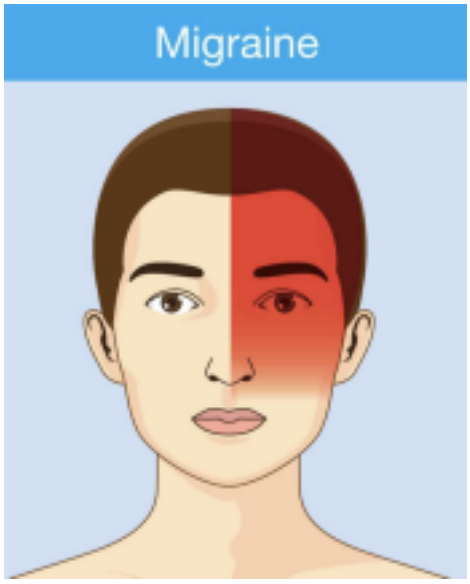
Tang, X., Ding, H., Liang, M., Chen, X., Yan, Y., Wan, N., Chen, Q., Zhang, J., & Cao, J. (2021). Curcumin induces ferroptosis in non-small-cell lung cancer via activating autophagy. *Thoracic cancer*, *12*(8), 1219–1230. https://doi.org/10.1111/1759-7714.13904

Xingyu, Z., Peijie, M., Dan, P., Youg, W., Daojun, W., Xinzheng, C., Xijun, Z., & Yangrong, S. (2016). Quercetin suppresses lung cancer growth by targeting Aurora B kinase. *Cancer medicine*, *5*(11), 3156–3165. https://doi.org/10.1002/cam4.891

ISNS Case Study

Migraine Disease

By Dr. Norbert Ketskés, M.D., and Dr. Christina Rahm Ph.D.



A migraine is a common neurological disease that causes a variety of symptoms, most notably a throbbing, pulsing headache on one side of the head. Migraines tend to get worse with physical activity, lights, sounds, or smells. It may last at least for four hours or it can last several days. About 12 percent of Americans have this genetic disorder. Research shows that it is the sixth most disabling disease in the world. There are over one hundred and fifty types of headaches, divided into two categories: primary headaches and secondary headaches. A migraine is a primary headache, meaning it is not caused by a different medical condition. Primary headache disorders are clinical diagnoses, meaning there is no blood test or imaging study to diagnose it. An aura is a group of sensory, motor, and speech symptoms that usually act like warning signals that a migraine is about to begin. Commonly misinterpreted as a seizure or stroke, it typically happens before the headache pain, but sometimes appears during or after. An aura can last from ten minutes to sixty minutes. Aura symptoms are reversible, meaning that they can be stopped or healed. An aura produces symptoms that may include: seeing bright flashing dotsparkles, or lights, blind spots in vision, numb or tingling skin, speech changes, ringing in ears, temporary vision loss, seeing jagged or wavy lines, changes in smell or taste, and a “funny” feeling.

There are se veral types of migraines, and the same type may go by different names. Migraine with aura (complicated migraine: around 15-20% of people with migraine headaches experience aura. Migraine without aura (common migraine): this type of migraine headache strikes without the warning an aura may give you. The symptoms are the same, but that phase does not happen. Migraine without head pain: “silent migraine” or acephalgic migraine,” as this type is also known as, includes aura symptom but not the headache that typically follows Hemiplegic Migraine: You may have temporary paralysis (hemiplegia) or neurological or

sensory changes on one side of your body. The onset of the headache may be associated with temporary numbness, extreme weakness on one side of your body, a tingling sensation. Sometimes it includes head pain and sometimes it does not. Retinal Migraine (ocular migraine): You may notice a temporary, partial or complete loss of vision in one of your eyes, along with a dull headache behind the eye that may spread to the rest of your head. You should always report a retinal migraine to your doctor as it could be a sign of a more serious issue. Chronic Migraine: a chronic migraine is when a migraine occurs at least 15 days per month. The symptoms may change frequently, and so may the severity of pain. Migraine with Brainstem Aura: with this migraine, you will have vertigo, slurred speech, double vision or loss of balance, which occur before the headache. The headache pain may affect the back of your head. Stratus Migrainosus: this is a rare and severe type of migraine that can last longer than 72 hours. The headache pain and nausea can be extremely bad.

The four stages in order are the prodrome (pre-monitory), aura, headache, and postdrome. About thirty percent of people experience symptoms before their headache starts. The first stage, prodrome, lasts a few hours or it can last days. You may or may not experience it as it may not happen every time. Some know it as a “pre headache” or “premonitory” phase. The aura phase can last as long as sixty minutes or as little as five. Most people do not experience an aura, and some have both the aura and the headache at the same time. The headache phase can last from four hours to seventy-two hours. Typically it starts on one side of the head and then spreads to the other side. The postdrome stage lasts for about a day or two. It is often called a migraine “hangover” and eighty percent of those who have migraines experience it. It can take about eight to seventy two hours to go through all four stages. Though migraine causes are not fully understood, genetics and environmental factors appear to play a role. There are several migraine triggers, including: hormonal changes in women, alcohol, caffeine, stress, sensory stimuli such as bright lights, sleep changes, weather changes, medications, foods and food additives.

The primary symptom of a migraine is a headache. Pain is sometimes described as pounding or throbbing. It can be a dull ache that develops into a pulsing pain that is mild, moderate, or severe. Pain can shift from one side of your head to the other, or feel like it's affecting your whole head. Some people feel pain around their eyes or temple, sometimes in their faces, sinuses, jaw or neck. Most migraines last about four hours, although severe ones can last much longer. Several risk factors make you more prone to having migraines including family history, age, sex and hormonal changes. If you have a family member with migraines, then you have a good chance of developing them too. Migraines can begin at any age, though the first often occurs during adolescence. Migraines tend to peak during your thirties, and gradually become less severe and less frequent following decades. Women are three times more likely than men to have migraines. For women who have migraines, headaches begin just before or shortly after the onset of menstruation. They might also change during pregnancy or menopause. Migraines generally improve after menopause.

Migraine treatment is aimed at stopping symptoms and preventing future attacks. Many

medications have been designed to treat migraines. Medications used to combat migraines fall into two categories: Pain-relieving medications: also known as acute or abortive treatment, these types of drugs are taken during migraine attacks and are designed to stop symptoms. Preventative medications: these types of drugs are taken regularly, often daily to reduce the severity or frequency of migraines. Treatment choices depend on the frequency and severity of your headaches, whether you have nausea and vomiting with your headaches, how disabling your headaches are, and other medical conditions you have

Medications used to relieve migraine pain work best when taken at the first sign of an oncoming migraine- as soon as signs and symptoms of migraine begin. Medications that can be used include pain relievers, triptans, CGRP antagonists, opioid medications, and anti-nausea drugs

Case Study I

Patient: Female

Age: 38-year-old

History: Her mother suffers from migraines.
She has been having migraine attacks for 5 years. She had attacks several times (2-3) a month and they lasted 2-3 days.

Symptoms: Throbbing pain on the right side of her head, nausea, vomiting, sensitivity to light and sound during the migraines. She finds it difficult to concentrate or perform any activities during the migraines, which negatively impacts her work and daily life.

Clinical tests: Neurological exam, MRI scan, Blood tests

Headache diary
Her regular diary helped her identify triggers that aggravate migraine attacks, such as excessive caffeine intake, stressful situations and lack of sleep. She has managed to develop a lifestyle that minimizes these triggers. Despite this, her migraine attacks have not significantly reduced.

Treatment/Method: She received proprietary blends.
Proprietary Blend I: 2x6 drops, morning and evening, for 3 days, then every 3 days then increased by 1-1 drops every 3 days to 2x10
Proprietary Blend II: 1 in the morning for 7 days, then 1 in the morning and 1 in the afternoon for 7 days, then 2 in the morning and 1 in the afternoon
Proprietary Blend III: ½ sachet in the morning for 7 days then 1 sachet in the morning
Proprietary Blend IV: ½ teaspoon in the morning.
Proprietary Blend V: 1 teaspoon in the in the evening
Proprietary Blend VI: 1 in the morning for 7 days then 1 in the morning and 1 in the evening

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

Seizure Protocol: She also suffers from seizures during migraine attacks. She received different treatment protocols with the proprietary blends. She took these as early as possible during the aura period, in any case before the onset of the headache.
Proprietary blend I: 1x 10 drops
Proprietary blend II: 2 capsules
Proprietary blend III: 1 sachet
Proprietary blend IV: ½ teaspoon

Results: After 1 month of treatment the intensity of symptoms during attacks has decreased. This included throbbing pain, nausea, vomiting, sensitivity to light and sound. After 2 months, the intensity of symptoms during attacks has further decreased. The frequency of attacks has also decreased. After 3 months, the nausea and vomiting stopped, the throbbing nature of the headache stopped. In the third month, there was only 1 attack which was resolved in a few hours.

References

Mayo Foundation for Medical Education and Research. (2021a, July 2). *Migraine*. Mayo Clinic. https://www.mayoclinic.org/diseases-conditions/migraine-headache/symptoms-causes/syc-20360201

Rezaie, S., Askari, G., Khorvash, F., Tarrahi, M. J., & Amani, R. (2021). Effects of Curcumin Supplementation on Clinical Features and Inflammation, in Migraine Patients: A Double-Blind Controlled, Placebo Randomized Clinical Trial. *International journal of preventive medicine*, *12*, 161. https://doi.org/10.4103/ijpvm.IJPVM_405_20

Shaik, M. M., & Gan, S. H. (2015). Vitamin supplementation as possible prophylactic treatment against migraine with aura and menstrual migraine. *BioMed research international*, *2015*, 469529. https://doi.org/10.1155/2015/469529

U.S. Department of Health and Human Services. (n.d.). *Migraine*. National Institute of Neurological Disorders and Stroke. https://www.ninds.nih.gov/health-information/disorders/migraine

ISNS Case Study

Multiple Sclerosis

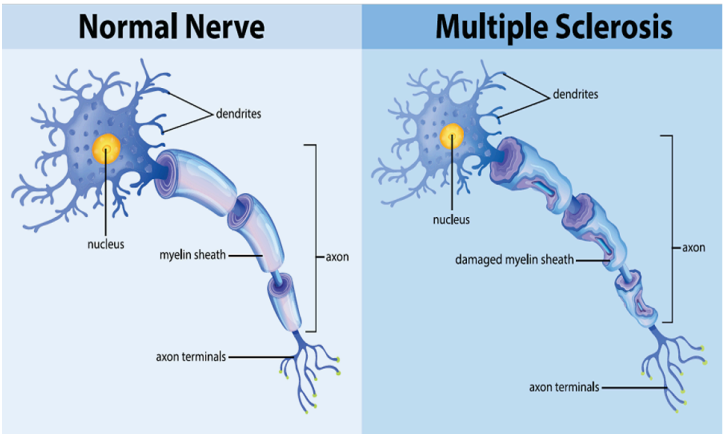
By Dr. Norbert Ketskés, M.D., and Dr. Christina Rahm Ph.D.

Multiple sclerosis (MS) is the most common disabling neurological disease of young adults with symptom onset generally occurring between ages 20 to 40 years. In MS, the immune system cells that normally protect us from viruses, bacteria, and unhealthy cells mistakenly attack the myelin in the central nervous system (brain, optic nerves, and spinal cord.) Myelin is a substance that makes up the protective myelin sheath that coats nerve fibers (axons). Multiple sclerosis is a disease that affects people differently. A small number of people with MS will have a mild course with little to no disability, whereas others will have a steadily worsening disease that leads to increased disability over time. Most people with MS, however, will have short periods of symptoms followed by long stretches of relative quiescence (inactivity or dormancy), with partial or full recovery. The disease is rarely fatal and most people with MS have a normal life expectancy.

Multiple Sclerosis attacks the axons in the central nervous system protected by myelin, which are commonly called white matter. MS also damages the nerve cell bodies, which are found in the brain's gray matter, as well as the axons themselves in the brain, spinal cord, and optic nerves that transmit visual information from the eye to the brain. As the disease progresses, the outermost layer of the brain, called the cerebral cortex, shrinks in a process known as cortical atrophy. The term multiple sclerosis refers to the distinctive areas of scar tissue (sclerosis-also called plaques or lesions) that result from the attack on myelin by the immune system. These plaques are visible using magnetic resonance imaging (MRI). Plaques can be as small as a pinhead or as large as a golf ball.

The symptoms of MS depend on the severity of the inflammatory reaction as well as the location and extent of the plaques, which primarily appear in the brain stem, cerebellum (involved

with balance and coordination of movement, among other functions), spinal cord, optic nerves, and the white matter around the brain ventricles (fluid-filled cavities). MS may also cause later symptoms such as mental or physical fatigue which accompanies the early symptoms during an attack. Mood changes such as depression or difficulty with emotional expression or control. It could also cause cognitive dysfunction or problems concentrating, multitasking, thinking, learning, or difficulties with memory or judgment. The natural course of MS is different for each person, which makes it difficult to predict. The onset and duration of MS symptoms usually depend on the specific type but may begin over a few days and go away quickly or develop more slowly and gradually over many years. Muscle weakness, stiffness, and spasms may be severe enough to affect walking or standing. In some cases, MS leads to partial or complete paralysis and using a wheelchair is not uncommon, particularly in individuals who are untreated or have advanced disease. Many people with MS find that weakness and fatigue are worse when they have a fever or when they are exposed to heat. MS exacerbations may occur following common infections. Pain is rarely the first sign of MS, but pain often occurs with optic neuritis and trigeminal neuralgia, a disorder that affects one of the nerves that provides sensation to different parts of the face. Painful limb spasms and sharp pain shooting down the legs or around the abdomen can also be symptoms of MS.



There is currently no cure for MS, but there are treatments that can reduce the number and severity of relapses and delay the long-term disability progression of the disease. Corticosteroids, such as intravenous (infused into a vein) therapies quickly and potently suppress the immune system and reduce inflammation. Plasma exchange (plasmapheresis) can treat severe flare-ups in people with relapsing MS forms that do not respond well to steroids.

Case Study I

Patient: Female

Age: 45-year-old

History: Multiple Sclerosis was diagnosed 4 years ago. The diagnosis of the disease was confirmed by a lumbar puncture and MRI.

Symptoms: Relapsing-remitting MS. She had an attack at least once a month, lasting for several days, often 7-10 days even with steroid treatment. She had a degree of fatigue, her legs were numb, she had double vision, she was shaking, she was dizzy, and she had abdominal pain.

Treatment/Method: She received biological therapy continuously. She also received proprietary blends.

Proprietary Blend I: 2x5 drops, morning and evening, for 3 days, then every 3 days then
increased by 1-1 drops every 3 days to 2x12 drops daily.
Proprietary Blend II: 1 in the morning for 7 days, then 1 in the morning and 1 in the afternoon for 7 days, then 2 in the morning and 1 in the afternoon.
Proprietary Blend III: 1/2 sachet in the morning for 7 days then 1 sachet in the morning, then 1 sachet in the morning and 1 sachet in the evening.
Proprietary Blend IV: 1 teaspoon in the morning.
Proprietary Blend V: 1 teaspoon in the evening.
Proprietary Blend VI: 1 in the morning for 7 days then 1 in the morning and 1 in the evening for 7 days, then 2 in the morning and 2 in the evening.

She also received a special diet based on medical expertise. She also did additional exercises to achieve a positive mental and emotional state (e.g: meditation and breathing exercises).

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine,
anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI:
B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

Results: In the first month of treatment, the intensity of symptoms decreased during an attack. She has not had a relapse in 4 months since starting the proprietary blends. Based on the control tests, the progression of the disease stopped.

No side effects were reported.

References

Ghaiad, H. R., Nooh, M. M., El-Sawalhi, M. M., & Shaheen, A. A. (2017). Resveratrol Promotes Remyelination in Cuprizone Model of Multiple Sclerosis: Biochemical and Histological Study. *Molecular neurobiology*, *54*(5), 3219–3229. https://doi.org/10.1007/s12035-016-9891-5

Johns Hopkins Medicine . (n.d.). Multiple Sclerosis (MS) . Retrieved March 23, 2023, from https://www.hopkinsmedicine.org/health/conditions-and-diseases/multiple-sclerosis-ms

McLaughlin, L., Clarke, L., Khalilidehkordi, E., Butzkueven, H., Taylor, B., & Broadley, S. A. (2018). Vitamin D for the treatment of multiple sclerosis: a meta-analysis. *Journal of neurology*, *265*(12), 2893–2905. https://doi.org/10.1007/s00415-018-9074-6

Noor, N. A., Fahmy, H. M., Mohammed, F. F., Elsayed, A. A., & Radwan, N. M. (2015). Nigella sativa amliorates inflammation and demyelination in the experimental autoimmune encephalomyelitis-induced Wistar rats. *International journal of clinical and experimental pathology*, *8*(6), 6269–6286.

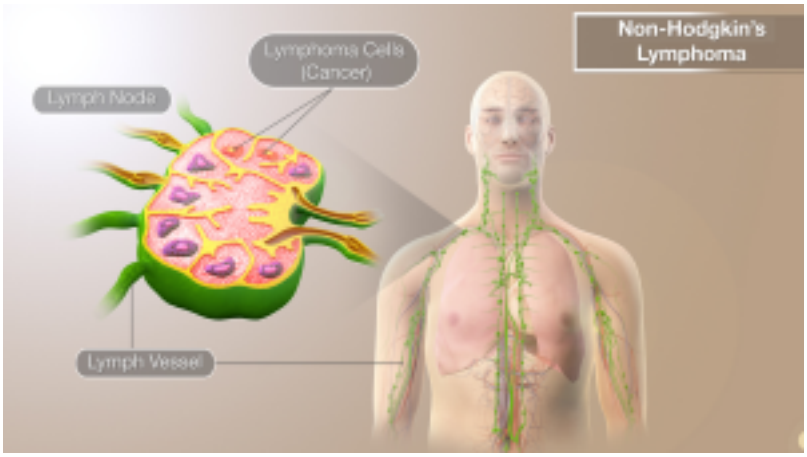
U.S. Department of Health and Human Services. (2023, January 23). *Multiple sclerosis*. National Institute of Neurological Disorders and Stroke. Retrieved March 23, 2023, from https://www.ninds.nih.gov/health-information/disorders/multiple-sclerosis

ISNS Case Study

Non-Hodgkin's Lymphoma

By Dr. Norbert Ketskés, M.D.,and Dr. Christina Rahm Ph.D.

Non-Hodgkin's Lymphoma is a type of cancer that begins in the lymphatic system, which is part of the body's germ-fighting immune system. In Non-Hodgkin's Lymphoma, white blood cells called lymphocytes grow abnormally and can form growths (tumors) throughout the body. Non-Hodgkin's lymphoma (NHL) is a term used for many different types of lymphoma that all share some of the same characteristics. NHL most often affects adults, but children can get it too. Lymphoma can start anywhere in the body where lymph tissue is found. The major sites of lymph tissue are lymph nodes, the spleen, bone marrow, the thymus, the digestive tract, adenoids and tonsils.



Non-Hodgkin's Lymphoma is a general category of lymphoma. There are many subtypes that fall into this category. Diffuse large B-cell lymphoma is the most common type of NHL and is marked by rapidly growing tumors in the lymph nodes, spleen, liver, bone marrow, or other tissues and organs. Follicular lymphoma is the most common type of low-grade lymphoma and develops when white blood cells cluster together to form lumps in your lymph glands or organs. The other general category of lymphoma is Hodgkin's lymphoma. Advances in diagnosis and treatment of non-hodgkin's lymphoma have helped improve the prognosis for people with this disease.

The lymph system is made up mainly of lymphocytes, a type of white blood cell that helps the body fight infections. There are 2 main types of lymphocytes B lymphocytes and T lymphocytes. B lymphocytes (B cells) normally help protect the body against germs (bacteria or viruses) by

making proteins called antibodies. The antibodies attach to the germs, marking them for destruction b other parts of the immune system. There are several types of T lymphocytes (cells). Some T cells destroy germs or abnormal cells in the body. Other T cells help boost or slow the activity of other immune system cells. Lymphoma can start in either type of lymphocytes, but B-cell lymphomas are the most common.

Types of NHL can also be grouped based on how fast they grow and spread. Indolent lymphomas grow and spread slowly. Some indolent lymphomas might not need to be treated right away but can be watched closely instead. The most common type of indolent lymphoma in the United States is follicular lymphoma. Aggressive lymphomas grow and spread quickly, and usually need to be treated right away. The most common type of aggressive lymphoma in the United States is diffuse large cell B lymphoma (DLBCL). Some types of lymphoma, like mantle cell lymphoma, don't fit neatly into either of these categories.

Signs and symptoms of NHL may include swollen lymph nodes in your neck, armpits, or groin. Abdominal pain or swelling, chest pain, coughing or trouble breathing, persistent fatigue, fever, night sweats, and unexplained weight loss. In most instances, doctors don't know what causes NHL. It begins when your body produces too many abnormal lymphocytes, which are a type of white blood cell. Normally, lymphocytes go through a predictable life cycle. Old lymphocytes die, and your body creates new ones to replace them. In NHL the lymphocytes don't die, and your body keeps creating new ones. This oversupply of lymphocytes crowds into your lymph nodes, causing them to swell. Non-Hodgkin's Lymphoma generally involves the presence of cancerous lymphocytes in your lymph nodes. The disease can spread to other parts of your lymphatic system. These include lymphatic vessels, tonsils, adenoids, spleen, thymus, and bone marrow. Occasionally, NHL involves organs outside your lymphatic system. Most people diagnosed with NHL do not have any obvious risk factors. Many people who have risk factors for the disease never develop it. Some risk factors that may increase the risk for NHL include medications that suppress the immune system, chemicals, old age and infection with certain viruses and bacteria such as Epstein-Barr and HIV.

Case Study I

Patient: Female

Age: 52-year-old

History: No family history. In 2021, she was diagnosed with Non-Hodgkin lymphoma

(histological dg: low-grade, follicular)

Clinical tests:

PET scan: Multiple involvement

Laboratory: there was no major difference

Symptoms: Swollen, small lymph nodes in the neck and all over the body, persistent fatigue, and night sweats.
She goes for a check-up at the hospital every quarter, the last 3 times she has developed swollen lymph nodes in more and more places

Treatment/Method: She received biological therapy continuously. She also received proprietary blends.

Proprietary Blend I: 2x5 drops, morning and evening, for 3 days, then every 3 days then increased by 1-1 drops every 3 days to 2x12
Proprietary Blend III: 1/2 sachet in the morning for 7 days then 1 sachet in the morning for 7 days then 1 sachet in the morning and 1 sachet in the evening for 7 days then 2 sachet in the morning and 1 sachet in the evening
Proprietary Blend IV: 1 teaspoon in the morning.
Proprietary Blend V: 1 teaspoon in the in the evening for 7 days, then 1 teaspoon in the morning and 1 teaspoon in the evening
Proprietary Blend VI: 1 in the morning for 7 days then 1 in the morning and 1 in the evening for 7 days then 2 in the morning and 2 in the evening She also did exercises to achieve positive mental and emotional states such as yoga, meditation, breathing exercises and stress management. A special diet based on Dr. Ketskes' personal experience was followed. It consisted of refined carbohydrates and animal protein free, vegetable based and gluten free diet.

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

Results: In the first month of treatment, fatigue and night sweats decreased. After 3 months of treatment the fatigue and night sweats were gone. No new lymph node swelling

developed, and the swelling of the existing ones also decreased. Consciousness of illness has passed.

References

Arslan, B. A., Isik, F. B., Gur, H., Ozen, F., & Catal, T. (2017). Apoptotic Effect of *Nigella sativa* on Human Lymphoma U937 Cells. *Pharmacognosy magazine*, *13*(Suppl 3), S628–S632. https://doi.org/10.4103/pm.pm_93_17

Deubler, E. L., Gapstur, S. M., Diver, W. R., Gaudet, M. M., Hodge, J. M., Stevens, V. L., McCullough, M. L., Haines, L. G., Levine, K. E., & Teras, L. R. (2020). Erythrocyte levels of cadmium and lead and risk of B-cell non-Hodgkin lymphoma and multiple myeloma. *International journal of cancer*, *147*(11), 3110–3118. https://doi.org/10.1002/ijc.33136

Frazzi, R., & Tigano, M. (2014). The multiple mechanisms of cell death triggered by resveratrol in lymphoma and leukemia. *International journal of molecular sciences*, *15*(3), 4977–4993. https://doi.org/10.3390/ijms15034977

Mayo Foundation for Medical Education and Research. (2022, October 26). *Non-Hodgkin's Lymphoma*. Mayo Clinic. Retrieved May 1, 2023, from https://www.mayoclinic.org/diseases-conditions/non-hodgkins-lymphoma/symptoms-cau ses/syc-20375680

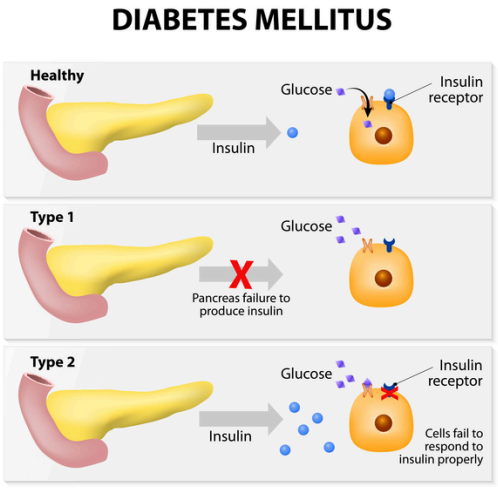
ISNS Case Study

Non-Insulin Dependent Diabetes Mellitus

By Dr. Norbert Ketskés, M.D., and Dr. Christina Rahm Ph.D.

Non-insulin-dependent (type II) diabetes mellitus is an inherited metabolic disorder characterized by hyperglycemia with resistance to ketosis. The onset is usually after the age of 40. Patients are variably symptomatic and frequently obese, hyperlipidemic, and hypertensive. Clinical, pathological, and biochemical evidence suggests that the disease is caused by a combined defect of insulin secretions and insulin resistance.

Non-insulin-dependent (type II) diabetes has been divided by the World Health Organization (WHO) into two main groups obese and non-obese. Insulin metabolism is abnormal in diabetes either because of reduced secretion or sensitivity to its effects. There are two main types of diabetes: insulin-dependent (IDDM or type 1 diabetes mellitus formerly juvenile onset) and non-insulin-dependent (NIDDM or type 2 diabetes mellitus, formerly maturity onset.) The increased blood glucose levels seen in diabetes can eventually damage a person's blood vessels, nerves, and organs. The body attempts to remove the excess glucose through urination and the most common symptoms of type 2 diabetes include increased thirst, increased hunger, increased frequency of urination, extreme fatigue, weight loss, and sudden loss of muscle bulk. Some of these symptoms are also seen in type 1 diabetes but type 2 diabetes symptoms tend to develop more gradually and can take months or years to manifest. This can make it more difficult for people to tell if they have underlying health conditions and often people have had type 2 diabetes for a long time before it is finally diagnosed.



Several factors can increase a person's risk of developing diabetes. The risk factors include being overweight or obese, unhealthy eating habits, low levels of physical activity, a waist measurement of 31.5 inches or more for women and 37 inches for men, raised cholesterol levels,

high blood pressure, and smoking. A family history of diabetes can also increase a person's risk of developing the condition. Studies have shown that the offspring of families where one parent has diabetes, are at a 15% risk of developing the condition and that offspring born to two parents with diabetes have a 75% increased risk.

Case Study

Patient: Female

Age: 60-year-old

History: Both grandmothers were also diabetic (NIDDM). Hypertension for 10 years, overweight, smokes (10 pcs/day), 6 months ago 17.2 mmol/l. During a routine laboratory test fasting blood sugar level detected (normal value 4.0-6.4 mmol), Carbamid: 11.8 mmol/l (normal 2.0-7.2), creatinin: 114 mmol/l (normal: 59-104)

Diabetologist opinion: Type 2 diabetes recommended therapy: Metformin 500 mg once a day for 1 week, then twice daily. Diet and exercise.

Control (1 month): Blood sugar level: 14 mmol/l

Caramid: 10.8mmol/l (norm: 2.0-7.2) Creatinin: 110 mmol/l (norm: 59-104),

Recommended therapy: Metformin 500 mg twice a day and Gliclazid 2 x 60 mg and Xulatophy (inj.) 10 mg/day (sc)

Complaints: Highly fluctuating blood sugar levels, fatigue, her weight did not change.

Blood sugar level:9,2 mmol/l

Carbamid: 10.8 mmol/l (norm.: 2.0-7.2), creatinin: 108 mmol/l (norm.: 59-104),

HBL (Hemoglobin) A1C%: 8.5 (norm: 4.0-6.4% , the therapeutic target range: below 7%) (the HGB A1C value is usually checked every 3 months)

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

Treatment/Method:

Proprietary blend I: 2 x 6 drops, morning and evening, for 3 days, then every 3 days then increased by 1-1 drops every 3 days to 2 x 10.

Proprietary blend II: 1 capsule in the morning for 7 days, then 1 capsule in the morning and 1 capsule in the afternoon.

Proprietary III: ½ sachet in the morning for 7 days then 1 sachet in the morning and 1 sachet in the evening.

Proprietary blend IV: ½ teaspoon in the morning.

Proprietary blend V: 1 teaspoon in the evening for 7 days, then 1 teaspoon in the morning and 1 teaspoon in the evening (1 month).

Proprietary VI: 1 capsule in the morning and 1 capsule in the evening.

Results: Control (in1 month):

Blood sugar level:7,2 mmol/l (normal value: 4.0-6.4 mmol/l)

Carbamid: 8.8 mmol/l (norm.: 2.0-7.2), creatinin: 104 mmol/l (norm.: 59-104),

Control (in 3 months)

Blood sugar level:6,2 mmol/l (normal value: 4.0-6.4 mmol/l)

Carbamid: 5.6 mmol/l (norm.: 2.0-7.2), creatinin: 88 mmol/l (norm.: 59-104),

HBL (Hemoglobin) A1C%: **6.4!!** (norm: 4.0-6.4% , the therapeutic target range: below 7%)

Blood sugar level stabilized!!,

The fatigue is gone and she has lost 8 kg

References

Derosa, G., D'Angelo, A., & Maffioli, P. (2022). The role of selected nutraceuticals in management of prediabetes and diabetes: An updated review of the literature. *Phytotherapy research : PTR*, *36*(10), 3709–3765. https://doi.org/10.1002/ptr.7564

Funamoto, M., Shimizu, K., Sunagawa, Y., Katanasaka, Y., Miyazaki, Y., Kakeya, H., Yamakage, H., Satoh-Asahara, N., Wada, H., Hasegawa, K., & Morimoto, T. (2019). Effects of Highly Absorbable Curcumin in Patients with Impaired Glucose Tolerance and Non-Insulin-Dependent Diabetes Mellitus. *Journal of diabetes research*, *2019*, 8208237. https://doi.org/10.1155/2019/8208237

Moschos, M. M., Dettoraki, M., Tsatsos, M., Kitsos, G., & Kalogeropoulos, C. (2017). Effect of carotenoids dietary supplementation on macular function in diabetic patients. *Eye and vision (London, England)*, *4*, 23. https://doi.org/10.1186/s40662-017-0088-4

Rodger W. (1991). Non-insulin-dependent (type II) diabetes mellitus. *CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne*, *145*(12), 1571–1581.

ISNS Case Study

Parkinson's Disease

By Dr. Norbert Ketskés, M.D.,and Dr. Christina Rahm Ph.D.

Parkinson's Disease is a neurodegenerative brain disorder that causes unintended or uncontrollable movements, such as shaking, stiffness, and difficulty with balance or coordination. Parkinson's disease is a slowly progressive disease, which causes a gradual loss of nerve cells in the brain that produce the neurotransmitter dopamine. Because dopamine carries signals to the part of the brain that controls movement and coordination, decreased dopamine levels lead to the cardinal motor symptoms of Parkinson's disease which include resting tremors, generalized slowness (bradykinesia), stiffness of the limbs (cogwheel rigidity). Progression of these symptoms results in high rates of disability and care requirements.

The most prominent signs and symptoms of Parkinson's disease occur when nerve cells in the basal ganglia, an area of the brain that controls movement, become impaired and/or die. Normally, these nerve cells, or neurons, produce an important brain chemical known as dopamine. When neurons die or become impaired they produce less dopamine, which causes movement problems associated with the disease. Scientists still do not know what causes the neurons to die. Individuals with Parkinson's disease also lose the nerve endings that produce norepinephrine, the main chemical messenger for the sympathetic nervous system, which controls many functions such as heart rate and blood pressure. The loss of norepinephrine might explain some of the non-movement features of Parkinson's, such as fatigue, irregular blood pressure, decreased movement of food through the digestive tract, and sudden drop in blood pressure when a person stands up from a sitting or lying position. Many brain cells of people with Parkinson's disease contain Lewy bodies, unusual clumps of the protein alpha-synuclein. Scientists are trying to better understand the normal and abnormal functions of alpha-synuclein and its relationship to genetic variants that impact Parkinson's and Lewy body dementia.

Some cases of Parkinson's disease appear to be hereditary, and a few cases can be traced to specific genetic variants. While genetics is thought to play a role in Parkinson's, in most cases the disease does not seem to run in families. Many researchers now believe that Parkinson's results from a combination of genetic and environmental factors, such as exposure to toxins. Scientists are working to better understand the broad range of environmental exposures linked to

Parkinson's disease. Traumatic head injuries or traumatic brain injuries, are head injuries that result in altering the level of consciousness and have been associated with an increased risk for developing Parkinson's years after the injury. There are differences in geographical distribution of Parkinson's. These could be due to the difference in environmental factors and genetic risk factors. Certain occupational categories or job titles have been associated with a higher incidence of Parkinson's. Occupational exposures to various metals have also been suggested to be related to the development of Parkinson's. Trichloroethylene (TCE) is a solvent used in many industries and is the most common organic contaminant in groundwater. Exposure to TCE was found to be associated with Parkinson's among workers whose factory job resulted in long-term exposure.

Parkinson's has four main symptoms which include tremors in hands, legs, jaw, or head, muscle stiffness, where muscle remains contracted for a long period of time, slowness of movement, impaired balance and coordination, sometimes leading to falls. Other symptoms associated with Parkinson's may include depression or other emotional changes, difficulty swallowing, chewing, or speaking, urinary problems or constipation, and skin problems. The symptoms of Parkinson's and the rate of progression differ among individuals. Early symptoms of this disease are subtle and occur gradually. For example, people may feel mild tremors or have difficulty getting out of a chair. They notice that they speak too softly, or that their handwriting is slow and looks cramped or small. Friends or family members may be the first to notice changes in someone with early Parkinson's. They may see that the person's face lacks expression and animation, or that the person does not move an arm or leg normally. People with Parkinson's diseases often develop a parkinsonian gait that includes a tendency to lean forward; take small, quick steps; and reduce the swinging of their arms. They also may have trouble initiating or continuing movement. Symptoms often begin on one side of the body or even in one limb on one side of the body. As the disease progresses, it eventually affects both sides. However, the symptoms may still be more severe on one side than the other. Many people with Parkinson's disease note that prior to experiencing stiffness and tremor, they had sleep problems, constipation, loss of smell, and restless legs. Some people with Parkinson's may experience changes in their cognitive function, including problems with memory, attention, and the ability to plan and accomplish tasks. Stress, depression, and some medications may also contribute to these changes in cognition.

There are currently no blood or laboratory tests to diagnose non-genetic cases of Parkinson's. Doctors usually diagnose the disease by taking a person's medical history and performing a neurological examination. If symptoms improve after starting to take medication, it's another indicator the person has Parkinson's. A number of disorders can cause symptoms similar to those of Parkinson's disease. People with Parkinson's-like symptoms that result from other causes, such as multiple system atrophy and dementia with Lewy bodies, are sometimes said to have parkinsonism. While these disorders initially may be misdiagnosed as Parkinson', certain medical tests, as well as response to drug treatment, may help to better evaluate the cause. Many other diseases have similar features but require different treatments, so it is important to

get an accurate diagnosis as soon as possible.

Although there is no cure for Parkinson's disease, medicines, surgical treatment, and other therapies can often relieve some symptoms. Medicines that can help treat the symptoms of Parkinson's by increasing the levels of dopamine in the brain, affects the other brain chemicals in the brain such as neurotransmitters, which transfer information between brain cells, and help to control non-movement symptoms. The main therapy for Parkinson's is levodopa. Nerve cells use levodopa to make dopamine to replenish the brain's dwindling supply. Usually, people take levodopa along with another medication called carbidopa. Carbidopa prevents or reduces some of the side effects of levodopa therapy such as nausea, vomiting, low blood pressure, restlessness, and reduces the amount of levodopa needed to improve symptoms. People living with Parkinson's disease should never stop taking levodopa without consulting with their doctor. Suddenly stopping the drug may have serious side effects, like being unable to move or having difficulty breathing. The doctor may prescribe other medicines to treat Parkinson's symptoms, including dopamine agonists to stimulate the production of dopamine in the brian, enzyme inhibitors to increase the amount of dopamine by slowing down the enzymes that break down dopamine in the brain, amantadine to help reduce involuntary movements, and anticholinergic drugs to reduce tremors and muscle rigidity. For people with Parkinson's disease who do not respond well to medications, the doctor may recommend deep brain stimulation. During a surgical procedure, a doctor implants electrodes into part of the brain and connects them to a small electrical device implanted in the chest. The device and electrodes painlessly stimulate specific areas in the brain that control movement in a way that may help stop many of the movement-related symptoms of Parkinson's, such as tremor, slowness of movement, and rigidity. Other therapies that may help manage Parkinson's symptoms include physical, occupational, and speech therapies, which may help with gait and voice disorders, tremors and rigidity, and decline in mental focus. A healthy diet is provided to help support overall wellness. Exercise to strengthen muscles and improve balance, flexibility, and coordination. Massage therapy is used to reduce tension, and yoga and tai chi increase stretching and flexibility.

Case Study

Patient: Male

Age: 62-years-old

History: Family history is negative and Parkinson's syndrome was diagnosed 6 months ago.

Medical History: The diagnosis of Parkinson's disease is primarily clinical, based on the patient's symptoms and a thorough neurological examination.

Symptoms: Resting tremor in his right hand, stiffness, difficulty initiating movement, slowness of movement, and impaired coordination.

His wife also reports that he has been experiencing a reduced sense of smell, and she notices a decrease in his facial expressions. His communication also slowed down.

Treatment/Method: He started out with the conventional treatment Levodopa 100 mg /Carbidopa 25 mg / Entacapone 200 mg

Proprietary Blend I: 2x6 drops, morning and evening, for 3 days, then every 3 days then increased by 1-1 drops every 3 days to 2x12
Proprietary Blend II: 1 in the morning for 7 days, then 1 in the morning and 1 in the afternoon for 7 days, then 2 in the morning and 1 in the afternoon
Proprietary Blend III: 1/2 sachet in the morning for 7 days then 1 sachet in the morning for 7 days then 1 sachet in the morning and 1 sachet in the evening
Proprietary Blend IV: 1/2 teaspoon in the morning for 7 days, then 1 teaspoon in the morning
Proprietary Blend V: 1 teaspoon in the in the evening
Proprietary Blend VI: 1 in the morning for 7 days then 1 in the morning and 1 in the evening

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

Additional treatment: Physical therapy and exercise programs can help improve mobility, balance, and strength. Speech therapy and occupational therapy may also be beneficial in managing speech and fine motor difficulties. A special diet based on Dr. Norbert Ketskes' personal experience was also implemented.

Results: After 1 Month: reduced stiffness, tremors in the hand. His sense of smell improved and he became a little more lively.

After 3 months: His difficulty starting movements decreased and his coordination improved. The stiffness and tremor in the hand improved further. His facial expressions became animated again. His communication has been restored. His mood has improved. Not only the family, but the patient could report on the improvements. Based on these improvements, the patient's quality of life improved.

References

Cilia, R., Laguna, J., Cassani, E., Cereda, E., Pozzi, N. G., Isaias, I. U., Contin, M., Barichella, M., & Pezzoli, G. (2017). *Mucuna pruriens* in Parkinson disease: A double-blind, randomized, controlled, crossover study. *Neurology*, *89*(5), 432–438. https://doi.org/10.1212/WNL.0000000000004175

Nebrisi E. E. (2021). Neuroprotective Activities of Curcumin in Parkinson's Disease: A Review of the Literature. *International journal of molecular sciences*, *22*(20), 11248. https://doi.org/10.3390/ijms222011248

Pignolo, A., Mastrilli, S., Davì, C., Arnao, V., Aridon, P., Dos Santos Mendes, F. A., Gagliardo, C., & D'Amelio, M. (2022). Vitamin D and Parkinson's Disease. *Nutrients*, *14*(6), 1220. https://doi.org/10.3390/nu14061220

Simon, D. K., Tanner, C. M., & Brundin, P. (2020). Parkinson Disease Epidemiology, Pathology, Genetics, and Pathophysiology. *Clinics in geriatric medicine*, *36*(1), 1–12. https://doi.org/10.1016/j.cger.2019.08.002

U.S. Department of Health and Human Services. (2022, April 14). *Parkinson's disease: Causes, symptoms, and treatments*. National Institute on Aging.

https://www.nia.nih.gov/health/parkinsons-disease

ISNS Case Study

Post Covid Syndrome and Parasites

By Erika West C.N., and Dr. Christina Rahm Ph.D.

Post Covid Syndrome encompasses a diverse array of emerging, recurring, or persistent health issues that individuals may encounter following infection with the COVID-19-causing virus. While the majority of people recover from COVID-19 within a few days to weeks after the initial infection, the recognition of Long Covid or Post Covid Syndrome typically begins at least four weeks post-infection. Post Covid Syndrome can affect anyone who has been infected, and there is currently no definitive test to ascertain whether symptoms or conditions are a result of COVID-19. It's essential to understand that Post Covid Syndrome is not a singular ailment. Diagnosis of Long COVID involves a comprehensive assessment of your health history, including prior COVID-19 testing, symptom experiences, virus exposure, and a thorough health examination.

Post Covid Syndrome encompasses a broad spectrum of signs, symptoms, and conditions that persist or emerge following an acute episode of COVID-19. This condition may be denoted by various terms, including Long-COVID, Long-haul COVID, Post-acute COVID-19, long-term

effects of COVID, and Chronic COVID. Although Post Covid Syndrome is more prevalent in individuals who have experienced a severe bout of COVID-19, it can affect anyone who has been infected with the virus responsible for COVID-19. SARS-CoV-2, the virus causing COVID-19, has the potential to reinfect individuals multiple times, thereby increasing the risk of developing Post Covid Syndrome with each occurrence. While most individuals with Post Covid Syndrome exhibit evidence of a prior infection or COVID-19 illness, there are instances where a person experiencing this syndrome may not have tested positive for the virus or been aware of their previous infection.

Individuals grappling with Post Covid Syndrome most frequently report persistent fatigue or exhaustion that hampers their daily routines, symptoms exacerbated by physical or mental exertion (commonly known as "post-exertional malaise"), and occurrences of fever. Additional manifestations encompass challenges in breathing or shortness of breath, coughing, chest discomfort, rapid or forceful heartbeats (referred to as heart palpitations), cognitive difficulties or concentration issues (referred to as "brain fog"), headaches, sleep disturbances, lightheadedness upon standing, tingling sensations, alterations in smell or taste, as well as emotional conditions like depression or anxiety. Digestive problems such as diarrhea and abdominal pain are also reported. Joint or muscle pain, skin rashes, and variations in menstrual patterns are among the less common symptoms. For some individuals with Post Covid Syndrome, their symptoms may defy easy explanation through diagnostic tests and prove challenging to manage.

People grappling with Post Covid Syndrome often encounter difficulties in performing routine activities, impacting their ability to handle work responsibilities or household chores. Factors heightening the risk of developing post-COVID syndrome include experiencing a severe COVID-19 illness, especially if it led to hospitalization or intensive care, preexisting medical conditions preceding COVID-19 infection, and the presence of conditions affecting multiple organs and tissues, such as multisystem inflammatory syndrome, either during or after a bout of COVID-19. There is a higher prevalence of Post Covid Syndrome in adults compared to children and teenagers. Nevertheless, it is essential to note that long-term effects can manifest in anyone who contracts COVID-19, irrespective of whether they displayed no symptoms or only experienced mild illness.

Case Study

Patient: Female

Age: 35 -year-old

Medical history: Long Covid symptoms after Covid-19 infection and parasite infestation. As a teenager hay fever and gut issues. After her first child, tooth decay and underweight.

Her symptoms inlcude: migraine, angina, constant infections panic attacks, visual problems, rashes, dry eyes, IBS, agression, hair loss, tachycardia, toothache, sleep issues, lumbago, and exhaustion.
A low point was reached with a COVID-19 infection with the following condition and additional symptoms: Pain all over the body, brain fog, unable to concentrate. She could only lie down and had to be fed and cared for.

Treatment/Method:

Proprietary blend I from the beginning: 1 drop daily in a glass of water for 3 days, then every 3 days increase the number of drops by 1 drop every 3 days, reaching up to 6 drops. Then severe dizziness occurred, and the drops were increased to 4 x 6 drops daily.
Proprietary blend II: after 3 months, started on 1 capsule in the morning, and 1/2 sachet ofn

Proprietary III: 1 sachet daily was added

After 6 Months
Proprietary blend IV: 2 x 1/3 teaspoon daily
Proprietary blend V: 1 capsule daily
Proprietary blend VI: 1 teaspoon daily
Proprietary Blend VII: 1 teaspoon daily

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

Results:

After 1 month: She was able to sleep and her mood brightened
After 3 months: She was able to go for short walks. Dizziness has been controlled with the intake of **Proprietary Blend I**.
After 6 Months: She was able to run her household independently again.
After 8 Months: She was able to do sports again
After 12 Months: She was able to go back to work and had enough energy for new projects.
After 18 Months: She successfully participated in her first 5.5 km run.

In the meantime, amalgam fillings and Nicos were removed, and the intestines were cleansed and rehabilitated. To date, she has done 8 parasite protocols in total.

References

Chabot, A. B., & Huntwork, M. P. (2021). Turmeric as a Possible Treatment for COVID-19-Induced Anosmia and Ageusia. *Cureus*, *13*(9), e17829. https://doi.org/10.7759/cureus.17829

Chippa V, Aleem A, Anjum F. Post-Acute Coronavirus (COVID-19) Syndrome. [Updated 2023 Feb 3]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK570608/

Hacioglu, M., Oyardi, O., & Kirinti, A. (2021). Oregano essential oil inhibits *Candida* spp. biofilms. *Zeitschrift fur Naturforschung. C, Journal of biosciences*, *76*(11-12), 443–450. https://doi.org/10.1515/znc-2021-0002

Hussein, A., Rashed, S., El Hayawan, I., El-Sayed, R., & Ali, H. (2017). Evaluation of the Anti-schistosomal Effects of Turmeric (*Curcuma longa*) Versus Praziquantel in *Schistosoma mansoni* Infected Mice. *Iranian journal of parasitology*, *12*(4), 587–596.

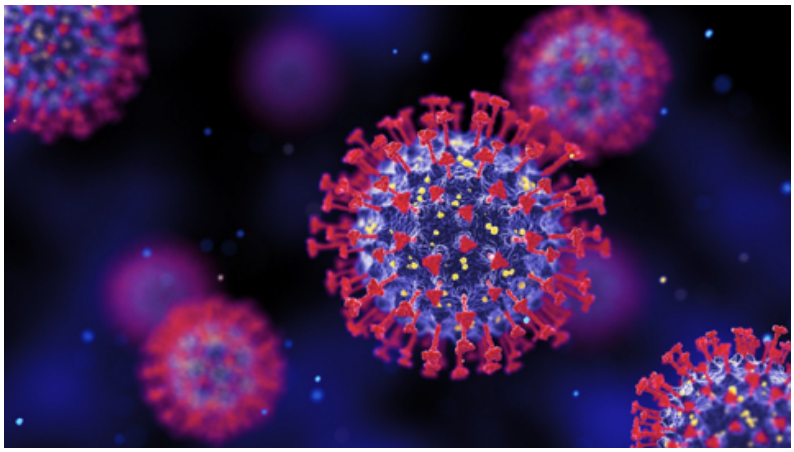
Mercier, B., Prost, J., & Prost, M. (2009). The essential oil of turpentine and its major volatile fraction (alpha- and beta-pinenes): a review. *International journal of occupational medicine and environmental health*, *22*(4), 331–342. https://doi.org/10.2478/v10001-009-0032-5

ISNS Case Study

Post-COVID Syndrome

By Dr. Norbert Ketskés, M.D., and Dr. Christina Rahm Ph.D.

Post Covid Syndrome is a wide range of new, returning, or ongoing health problems that people experience adfter being infected with the virus that causes COVID-19. Most people with COVID-19 get better withing a few days to a few weeks after infections, so at least 4 weeks after infection is the start of when Long Covid or Post Covid Syndrome could first be identified. Anyone who was infected can experience Post Covid Syndrome. There is no test that determines if your symptoms or condition is due to COVID-19. Post Covid is not one illness. A diagnosis of Long COVID is determined by evaluating your health history, which includes whether you previously tested positive for COVID-19, experienced symptoms, or had exposure to the virus, in addition to a thorough health examination.



Post Covid Syndrome is broadly defined as signs, symptoms, and conditions that continue or develop after an acute COVID-19 infection. Post Covid Syndrome can be referred to by many names, inlcuding Long-COVID, Long-haul COVID, Post acute COVID-19, long-term effects of COVID, and Chronic COVID. Post Covid Syndrome occurs more often in people who have had a severe COVID-19 illness, but anyone who has been infected with the virus that causes COVID-19 can experience it. People can be reinfected with SARS-COV-2, the virus that causes COVID-19, multiple times. Each time a person is infected or reinfected with SARS-CoV-2, they have a risk of developing Post Covid

Syndrome. While most people with Post Covid Syndrome have evidence of infection or COVID-19 illness, in some cases, a person with Post Covid Syndrome may not have tested positive for the virus or known they were infected.

People who experience Post Covid Syndrome most commonly report tiredness or fatigue that interferes with daily life, symptoms that get worse after physical or mental effort (also known as "post-exertional malaise"), and fever. Difficulty breathing or shortness of breath, cough, chest pain, fast-beating or pounding heart (also known as heart palpitations.) Difficulty thinking or concentrating ("brain fog"), headache, sleep problems, dizziness when you stand (lightheadedness), pins and needles feelings, change in smell or taste, depression, or anxiety. Digestive issues such as diarrhea and stomach pain. Other symptoms can include joint or muscle pain, rash, and changes in menstrual changes. Some people with Post Covid Syndrome have symptoms that are not explained by tests or easy to manage. People with Post Covid Syndrome may have difficulty functioning in everyday life. Their condition may affect their ability to perform daily activities such as work or household chores. Factors that increase the risk of developing post-COVID syndrome include; experiencing a severe COVID-19 illness, particularly if it led to hospitalization or intensive care. Preexisting medial conditions prior to contracting the COVID-19 virus. Suffering from a condition that affects multiple organs and tissues, such as multisystem inflammatory syndrome, either during or after a bout of COVID-19. A higher prevalence of Post Covid in adults compared to children and teenagers. However, it's worth noting that long-term effects can occur in anyone who contracts COVID-19, even those who had no symptoms or only mild illness.

Case Study

Patient: Female

Age: 42 -year-old

Medical history:

Generally healthy with no underlying health conditions

Acute Infection (Covid-19) September 2022: She experienced moderate symptoms, including fever, cough, fatigue, and loss of taste and smell. She isolated at home for 10 days and eventually recovered, testing negative for the virus.

Onset of Long-COVID Symptoms (May 2023) 8 months after her initial infection, she started experiencing a range of unusual symptoms: fatigue, shortness of breath, chest pain, brain fog, heart palpitations, joint pain.

Clinical Tests: Chest x-ray, ECG, cardiac ultrasound,

Laboratory Test:

High pro-BNP 295 pg/ml (normal up to 125)

The results showed no signs of organ damage, leading to the diagnosis of post-COVID syndrome.

Treatment/Method:

Proprietary blend I: 2x5 drops, morning and evening, for 3 days, then every 3 days then increased by 1-1 drops every 3 days to 2x10

Proprietary blend II: 1 in the morning for 3 days, then 1 in the morning and 1 in the afternoon for days, then 2 in the morning and 1 in the afternoon

Proprietary III: 1/2 sachet in the morning for 3 days then 1 sachet in the morning, then 1 sachet in the morning and 1 sachet in the evening

Proprietary blend IV: 1 teaspoon in the morning

Proprietary blend V: 1 teaspoon in the in the evening

Proprietary blend VI: 1 in the morning for 3 days then 1 in the morning and 1 in the evening

Results:

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

After 1 month: Her condition gradually improved, though she still experienced periodic symptoms, especially fatigue and mild cogntive difficulties. The pain in her joints has decreased, her chest complaints have decreased. Overall she felt better.

After 2 months:

Laboratory control test:

High pro-BNP (295) 150 pg/ml (normal up to 125)

Her chest and breathing complaints have disappeared. The pain in his joints has gone away. She has experienced fatigue and cognitive difficulties only rarely. She simply felt much better and she was able to return to her job full time!

References

Chabot, A. B., & Huntwork, M. P. (2021). Turmeric as a Possible Treatment for COVID-19-Induced Anosmia and Ageusia. *Cureus*, *13*(9), e17829. https://doi.org/10.7759/cureus.17829

Chippa, V. (2023, February 3). *Post-Acute coronavirus (COVID-19) syndrome*. StatPearls - NCBI Bookshelf. https://www.ncbi.nlm.nih.gov/books/NBK570608/

Post-COVID conditions. (2023, July 20). Centers for Disease Control and Prevention. https://www.cdc.gov/coronavirus/2019-ncov/long-term-effects/index.html

Im, J. H., Je, Y. S., Baek, J., Chung, M. H., Kwon, H. Y., & Lee, J. S. (2020). Nutritional status of patients with COVID-19. *International journal of infectious diseases : IJID : official publication of the International Society for Infectious Diseases*, *100*, 390–393. https://doi.org/10.1016/j.ijid.2020.08.018

Islam, M. N., Hossain, K. S., Sarker, P. P., Ferdous, J., Hannan, M. A., Rahman, M. M., Chu, D. T., & Uddin, M. J. (2021). Revisiting pharmacological potentials of Nigella sativa seed: A promising option for COVID-19 prevention and cure. *Phytotherapy research : PTR*, *35*(3), 1329–1344. https://doi.org/10.1002/ptr.6895

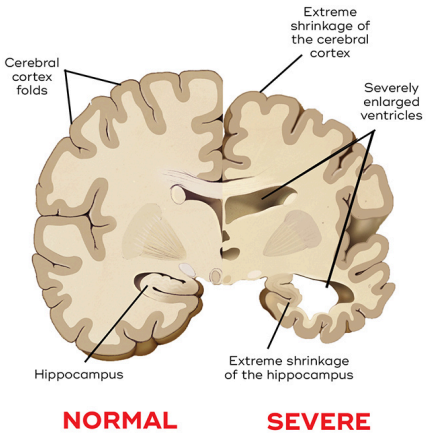
Vollbracht, C., & Kraft, K. (2021). Feasibility of Vitamin C in the Treatment of Post Viral Fatigue with Focus on Long COVID, Based on a Systematic Review of IV Vitamin C on Fatigue. *Nutrients*, *13*(4), 1154. https://doi.org/10.3390/nu13041154

ISNS Case Study

Senile Dementia

By Dr. Norbert Ketskés, M.D., and Dr. Christina Rahm Ph.D.

Senile also known as senile dementia is the mental deterioration (loss of intellectual ability) that is associated with or the characteristics of old age. Two major types of senile dementia are identified as: those due to generalized "atrophy" (Alzheimer's-type dementia) and those due to vascular problems (mainly, strokes). Senile dementia is often used when referring to Alzheimer's disease.



Senility, which is now more commonly referred to as dementia, is characterized by a decrease in cognitive abilities or mental decline. This may include the person's ability to concentrate, to recall information, and to properly judge a situation. Senility is a deterioration of body and mind associated with advanced aging. Indications of old age vary in the time of their appearance. Symptoms of senility are many of the physical changes associated with old age such as wrinkled skin, stooped posture, decrease in muscle strength, changes in lens and muscles of the eye, and hardening of the arteries. There are also mental changes associated with senility such as impaired judgment, loss of memory, and sometimes childish behavior. The actual psychological changes are thought to be related to aging of the cortical brain cells. Whereas the physical changes associated with aging occur in all individuals to some extent, evidence of psychological degeneration is not universal. In common usage, the term senility is applied to only mental deterioration.

Dementia is a term used to describe a group of symptoms affecting memory, thinking, and social abilities severely enough to interfere with your daily life. It is not a specific disease, but several diseases can cause dementia. Though dementia generally involves memory loss, memory loss has different causes. Having memory loss alone does not mean you have dementia, although it is often one of the early signs of the condition. Alzheimer's disease is the most common cause of

progressive dementia in older adults, but there are a number of other causes of dementia. Depending on the cause, some dementia symptoms may be reversible. Dementia symptoms vary depending on the cause, but common signs and symptoms include memory loss which is usually noticed by someone else, difficulty communicating or finding words, difficulty with visual and spatial abilities, difficulty reasoning or problem solving, difficulty handling complex tasks, difficulty planning and organizing, and confusion and disorientation. Psychological changes that occur with dementia include personality changes, depression, anxiety, inappropriate behavior, paranoia, and hallucinations.

Many factors can contribute to dementia. Some factors, such as age, cannot be changed. Others can be addressed to reduce your risk. Some risk factors that cannot be changed include age, being diagnosed with down syndrome, and family history. The risk factors that you can change include diet and exercise, alcohol use, sleep disturbances, and cardiovascular risk factors such as high blood pressure.

Case Study

Patient: Male

Age: 72 -year-old

History: Alzheimer's disease was diagnosed 1 year ago (2022)

Medical history:

Lab tests:

TSH (hypothyroidism), B12 and folic acid levels, Creatinine and electrolytes (kidney disease),

Liver function values- Normal range

Clinical test:

The Mini-Mental State Examination (MMSE) is a 30-point, quick-to-take cognitive test that is mainly used to identify dementia and assess its severity in medical, clinical psychologist and neuropsychological practice.The interval from 30 to 29 is considered normal, points 27-28 may indicate a mild neurocognitive disorder, for those from 26 to 20 we assume mild dementia, from 19 to 10 moderate, and from 9 below severe we are talking about dementia.

In his case the result: **19**

Treatment/Method:

Proprietary blend I: 2x6 drops, morning and evening, for 3 days, then every 3 days then increased by 1-1 drops every 3 days to 2x12 drops daily.

Proprietary blend II: 1 capsule in the morning for 7 days, then 2 capsules daily, 1 capsule in the morning and 1 capsule in the afternoon for 7 days, then 3 capsules daily, 2 capsules in the morning and 1 capsule in the afternoon for 7 days, then 4 capsules daily, 2 capsules in the morning and 2 capsules in the afternoon.

Proprietary III: ½ sachet in the morning for 7 days, then 1 sachet in the morning.

Proprietary blend IV: 1/2 teaspoon in the morning for 7 days, then 1 teaspoon in the morning.

Proprietary blend V: 1 teaspoon in the evening.

Proprietary blend VI: 1 capsule in the morning for 7 days, then 2 capsules daily, 1 capsule in the morning and 1 capsule in the evening.

LEGEND:

Proprietary blend I: silica, vitamin c, and trace minerals.

Proprietary blend II: N-acetyl L-tyrosine, anhydrous caffeine, L-theanine, velvet bean seed, pine bark, curcumin, and vitamin d.

Proprietary blend III: black seed oil, resveratrol, turmeric, raspberry ketone, apple cider vinegar, aloe Vera, and d-ribose

Proprietary blend IV: Vitamin C, Zinc sulfate, and Vitamin D3.

Proprietary blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Seed Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: B-Nicotinamide Adenine Dinucleotide (NAD+), Magnesium, Trace Minerals, Quercetin, Vitamin D, Vitamin D, and Vitamin K2

Results:

After 1 month: the change was first reported by the family, a slight improvement in speaking skills, the ability to find information, and mood improved.

After 4 months: Mini-Mental-State Examination (MMS) improved from 19 to 24. Expressed improvement in speaking skills, ability to find information, perception of time and mood. Not only did the family notice, but the patient also reported the improvements. Based on these results, the patient's quality of life improved.

In consultation with a neurologist, the dose of the drug was reduced from 10 mg to 5 mg.

References

Aarsland D. (2020). Epidemiology and Pathophysiology of Dementia-Related Psychosis. *The Journal of clinical psychiatry*, *81*(5), AD19038BR1C. https://doi.org/10.4088/JCP.AD19038BR1C

Gáll, Z., & Székely, O. (2021). Role of Vitamin D in Cognitive Dysfunction: New Molecular Concepts and Discrepancies between Animal and Human Findings. *Nutrients*, *13*(11), 3672. https://doi.org/10.3390/nu13113672

Kawahara, M., Tanaka, K. I., & Kato-Negishi, M. (2018). Zinc, Carnosine, and Neurodegenerative Diseases. *Nutrients*, *10*(2), 147. https://doi.org/10.3390/nu10020147

Kim, Y., & Clifton, P. (2018). Curcumin, Cardiometabolic Health and Dementia. *International journal of environmental research and public health*, *15*(10), 2093. https://doi.org/10.3390/ijerph15102093

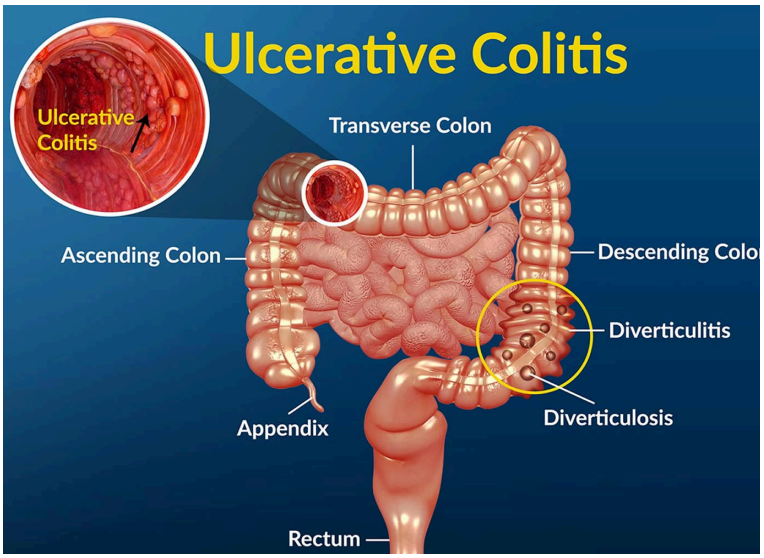
Tiwari, S., Atluri, V., Kaushik, A., Yndart, A., & Nair, M. (2019). Alzheimer's disease: pathogenesis, diagnostics, and therapeutics. *International journal of nanomedicine*, *14*, 5541–5554. https://doi.org/10.2147/IJN.S200490

ISNS Case Study

Ulcerative Colitis

By Dr. Tina Bozicnik, M.D., Dr. Norbert Ketskés, M.D., Dr. Dori Naerbo, Ph.D., and Dr. Christina Rahm Ph.D.

Ulcerative colitis (UC) is a type of inflammatory bowel disease (IBD). IBD comprises a group of diseases that affect the gastrointestinal (GI) tract. UC occurs when the lining of your large intestine (also called the colon), rectum, or both become inflamed. This inflammation produces tiny sores called ulcers on the lining of your colon. Inflammation usually begins in the rectum and spreads upward. It can involve your entire colon.



The Inflammation causes your bowel to move its contents rapidly and empty frequently. As cells on the surface of the lining of your bowel die, and ulcers form. The ulcers may cause bleeding and discharge of mucus and pus. While this condition affects people of all ages, most people develop UC between the ages of 15 and 30 years old, according to the American Gastrointestinal Association. After age 50, there is another small increase in diagnosis of IBD, usually in men. The seriousness of UC symptoms vary among people who have the condition. The symptoms can also change over time. People diagnosed with UC may experience periods of mild symptoms or no symptoms at all. This is called remission. However symptoms can return and become severe. This is called a flare up. Common symptoms include abdominal pain, increased abdominal sounds, bloody stools, diarrhea, fever, rectal pain, weight loss, and malnutrition.

Researchers believe that UC may be the result of an overactive immune system. However, it is unclear why some immune systems respond by attacking the large intestines, and others do not. Factors that may play a role in who develops UC include genes, environmental factors and other

immune disorders. You may inherit a gene from a parent that increases your chance of developing UC. If you have one type of immune disorder, your chance of developing a second is higher. Bacteria, viruses, and antigens may trigger your immune system. UC can be categorized according to the parts of the GI tract that it affects. Ulcerative proctitis, only the rectum is inflamed. It is considered a mild form of UC. Left-sided colitis causes inflammation in the area between the splenic flexure (near the upper part of the colon, where it bends) and the last section of the colon. The last section of the colon, known as the distal colon, includes the descending colon and sigmoid colon. Left-sided colitis is known as distal ulcerative colitis. Extensive colitis is known as pancolitis, and causes inflammation throughout the entire colon. It is considered a severe form of UC.

Case Study I

Patient: Female
Age: 39 years old
History: She does not smoke, she is stressed out a lot, and she does not do any type of sports. She had a very bad diet. She was diagnosed with ulcerative colitis 3 years ago. It is an inflammatory disease in which we distinguish between asymptomatic (rest or remission) and symptomatic (also called relapse or recurrence). In this patient, unfortunately, recurrence occurred frequently, every month, with characteristic symptoms. These symptoms greatly affected this patient's quality of life. Symptoms during the relapse period included abdominal pain, usually convulsive, urgent defecation, stimulus, bloody, mucous, purulent stools, diarrhea, fatigue, feeling weak, extremely unwell, and weight loss. Symptoms that occurred during the remission period included weakness, fatigue, bloating, and abdominal discomfort.

Medications: Remission period: sulfalazin 3000 mg/day (3x2/day)

Relapse period: sulfalazin 6000 mg/ day (4x3/day) and steroid (methylprednisolone orally, with a decreasing dose of 24 mg) and mesalamine in the form of an enema, directly into the intestine.

LEGEND:

Proprietary blend 1: Silica, Vitamin C, and Trace Minerals.

Proprietary blend 2: N-acetyl L-tyrosine, Anhydrous Caffeine, L-theanine, Velvet Bean Seed, Pine Bark, Curcumin, and Vitamin D.

Proprietary blend 3: Black Seed Oil, Resveratrol, Turmeric, Raspberry Ketone, Apple Cider Vinegar, Aloe Vera, and D-ribose

Proprietary Blend IV: Vitamin C, Zinc sulfate, and Vitamin D3

Proprietary Blend V: Inulin, Green Banana Flour, Apple Fiber, Bacillus Coagulans, Spirulina, Wheat Grass, Barley Grass, Alfalfa Leaf, Flaxseed, Psyllium Husk Powder, Chlorella, Broccoli, Kale, Spinach, Green Cabbage, Parsley, Aloe Vera, Cayenne Pepper, Blueberry Powder, Pomegranate Powder, and MCT Coconut Oil Powder

Proprietary Blend VI: Vitamin C, Vitamin D, Vitamin K2, Magnesium, OmniMIn AC, Quercetin, NAD.

Lab Tests: High inflammatory parameter (CRP: 98 mg/I, normal up to 5,0) and higher liver enzyme levels; ASAT-95 (U/L) (range 2-35), ALAT-98, (range 2-45), GGTP-152, (range 4-55 U/L) Se Iron 5,1 (range 10, 7-32,2 micromol/l) (iron deficiency anemia)

Hemoglobin: 101 (range 120-160 g/l)

Hematocrit: 0,28 (range 0,36-47 I/I

Treatment/Method:

Proprietary Blend I: 2x5 drops, morning and evening, for 3 days, then every 3 days then increased by 1-1 drops every 3 days to 2x10 drops daily.

Proprietary Blend II: 1 in the morning for 7 days, then 2, 1 in the morning and 1 in the afternoon.

Proprietary Blend III: ½ sachet in the morning for 7 days then increased to 1 full sachet in the morning for 7 days. Increase dose to 2 sachets daily, 1 sachet in the morning and 1 sachet in the evening.

Proprietary Blend IV: ½ teaspoon in the morning.

Proprietary Blend V: 1 teaspoon in the evening for 7 days, then 1 teaspoon in the morning and 1 teaspoon in the evening.

Proprietary Blend VI: 1 in the morning for 7 days. Then 1 in the morning and 1 in the evening.

Other Advice: She twitched to a gluten-free diet. She began to exercise to a achieve a positive mental and emotional state (e.g: yoga, meditation, breathing exercises, and stress management)

Results:

After 1 month: fatigue, weakness, and bloating decreased. She was able to reduce the sulfalazine from 3000 mg/ day (3x2) to 1500 mg/day (3x1).

After 3 months: the feeling of discomfort disappeared. She has not had a relapse in the last 3 months. She was able to further reduce the sulfalazine from 1500/day to 500 mg/day (1x1). She is feeling well, there is no pain and her weight has increased.

Control lab tests:

Inflammatory parameter CRP: (98!) 9 mg/l, (normal up to 5,0), liver enzyme levels: ASAT-(95!) 38 (U/L) (range-2-35), ALAT-(98!) 45, (range 2-45), GGTP-(152!) 50, range (4-55 U/L)

Se Iron (5,1) 10,1 (range 10,7-32,2 micromol/l)

Hemoglobin: (101!) 119 (range 120-160 g/l)

Haematocrit: (0,28!) 0,35 (range 0,36-0,47 l/l)

References

Battistini, C., Ballan, R., Herkenhoff, M. E., Saad, S. M. I., & Sun, J. (2020). Vitamin D Modulates Intestinal Microbiota in Inflammatory Bowel Diseases. *International journal of molecular sciences*, *22*(1), 362. https://doi.org/10.3390/ijms22010362

Cheifetz, A. (n.d.). *Ulcerative colitis* . National Institute of Diabetes and Digestive and Kidney Diseases. Retrieved March 3, 2023, from https://www.niddk.nih.gov/health-information/digestive-diseases/ulcerative-colitis

MedlinePlus [Internet]. Bethesda (MD): National Library of Medicine (US); updated 2020 Jun 24. Ulcerative Colitis/ UC ;updated 2020 Jun 10; Retrieved March 3, 2023, from https://medlineplus.gov/ulcerativecolitis.html

Shi, H., Wang, D., Chen, W., Li, Y., Si, G., & Yang, T. (2022). Quality of Evidence Supporting the Role of Supplement Curcumin for the Treatment of Ulcerative Colitis: An Overview of Systematic Reviews. *Gastroenterology research and practice*, *2022*, 3967935. https://doi.org/10.1155/2022/3967935