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CLINICAL CASE REPORT

High Dose Vitamin D Therapy & Anti-inflammatory Diet

(Systemic Lupus Erythematosus & Alopecia Areata)

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ABSTRACT

Systemic Lupus Erythematosus (SLE) is a chronic autoimmune disease that affects multiple organs and systems in the body. Alopecia areata (AA) is an autoimmune disease characterized by hair loss in patches on the scalp and other parts of the body. Here we report a case of a 35-year-old female patient from Brazil with SLE who developed AA and was successfully treated with the LGS Protocol.

The patient presented with intense polyarthralgia with swelling and was diagnosed with SLE. She was treated with hydroxychloroquine, methotrexate, and prednisone, which led to symptom improvement for two years. However, the patient later had a relapse of SLE symptoms and developed AA. Intralesional corticosteroid injections were administered to the scalp, resulting in hair regrowth in patches. However, 20 months later, the patient had another relapse of AA, which was more intense.

The patient learned about the LGS Protocol, which involves a high dose of vitamin D and anti-inflammatory diet. She began treatment and noticed significant improvement in joint pain after only three weeks. Hair growth was also noticeable after four months, and the patient achieved complete remission after one year on the protocol.

This case highlights the potential benefit of the LGS Protocol for the treatment of autoimmune diseases such as SLE and AA.

INTRODUCTION

Systemic Lupus Erythematosus (SLE) is a chronic autoimmune disease that can affect various organs and tissues in the body, including the skin, joints, kidneys, and brain [1]. The exact cause of SLE is unknown, but it is thought to result from a combination of genetic, dietary and environmental factors. The disease is characterized by the production of various autoantibodies, including anti-nuclear antibodies (ANAs), anti-dsDNA antibodies, and anti-Smith antibodies [2], which are formed when the immune system mistakenly attacks the body's own tissues.

ANAs are antibodies directed against components of the cell nucleus, including DNA, RNA, histones, and other proteins. ANAs are present in approximately 95% of SLE patients and are considered a hallmark of the disease [3]. Anti-dsDNA antibodies, as the name suggests, target double-stranded DNA and are found in approximately 70% of SLE patients [4]. These antibodies are thought to play a role in the development of lupus nephritis, a common complication of SLE that affects the kidneys.

Anti-Smith antibodies are directed against specific proteins found in the cell nucleus and are found in approximately 30% of SLE patients [5]. These antibodies are considered highly specific for SLE and are rarely found in other autoimmune diseases.

Alopecia areata (AA) is an autoimmune disease that results in hair loss on the scalp and other parts of the body. The exact cause of AA is unknown, but it is thought to result from a combination of genetic, dietary and environmental factors, similar to SLE. The disease is characterized by the production of autoantibodies that target hair follicles, resulting in their destruction [6].

Alopecia areata, autoantibodies against hair follicle antigens have been identified, including anti-hair keratin antibodies and anti-melanocyte antibodies. Anti-hair keratin antibodies target keratin, a structural protein found in hair follicles, and are found in approximately 30% of AA patients [7]. Anti-melanocyte antibodies target melanocytes, the cells that produce pigment in hair follicles, and are found in approximately 10% of AA patients [8]. These autoantibodies are thought to play a role in the destruction of hair follicles and the resulting hair loss in AA.

These autoantibodies activate immune cells, such as T cells, which attack and destroy the hair follicles. This leads to hair loss, which can range from small, patchy areas of hair loss to complete baldness. In addition to autoantibodies, other biomarkers of inflammation, such as cytokines and chemokines, are also involved in the pathophysiology of AA.

Interestingly, both SLE and AA have been linked to leaky gut syndrome, a condition in which the intestinal barrier becomes permeable, allowing bacteria, lipopolysaccharides, toxins, mycotoxins and other harmful substances to enter the bloodstream. This can trigger an immune response, leading to the production of autoantibodies and the development of autoimmune diseases.

THE LGS PROTOCOL

The LGS Protocol is a therapeutic plan that originated from various approaches by Dr. Eduardo Beltran [9], which have similarities to the Coimbra Protocol. Dr. Cicero Galli Coimbra initially developed the Coimbra Protocol in Brazil, which is founded on high-dose vitamin D therapy [10,11]. Research by Dr. Coimbra has led to the identification of single nucleotide polymorphisms (SNPs), including vitamin D genes like CYP2R1, CYP27B1, VDBP, and VDR, as well as genes responsible for the methylation cycle like MTHFR and MTR. These SNPs have been found to be prevalent in over 80% of patients that undergo genetic testing in our private practice [9].

The primary focus of the LGS Protocol is to address underlying gut problems that alter our microbiome diversity. Most patients in their practice have dysbiosis, SIBO, SIFO, or the presence of biofilms to some extent.

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The protocol tackles these issues by introducing an anti-inflammatory diet (AID) that *excludes gluten, dairy, lectins, sugar, and highly processed carbohydrates* [13]. Along with the diet, supplements like R-Alpha Lipoic Acid, Mg+, K2 (MK7), B1, B2, B3, B5, B6, B9 & B12 (last two in their methyl form), L-Glutamine, Licorice, and Aloe vera extract improve the methylation cycle, enhance liver metabolism and improve enterocyte tight junction integrity [9].

The LGS Protocol also provides support to the mitochondria through a combination of Co10, L-Carnitine, D-Ribose, and Magnesium complex. Additionally, Royal Jelly is used to improve stem cell function [14], as reported by patients who felt better. The protocol includes the use of more than 25 supplements that are compounded and taken daily [9,12]. For severe dysbiosis, SIBO, SIFO, or biofilm presence, the protocol may also include antimicrobial herbs or biofilm disruptors such as oregano oil, berberine, garlic, licorice, juniper, and others.

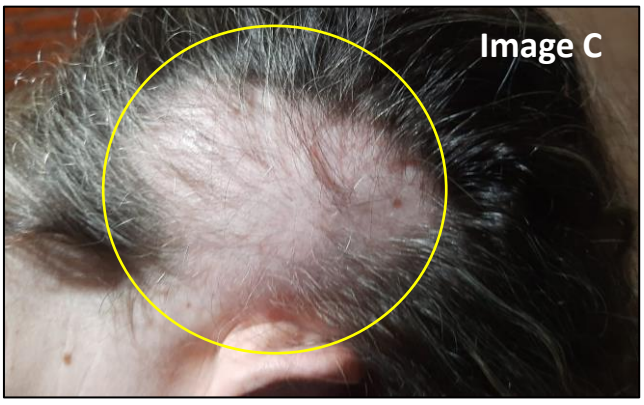
Two vitamin D3 dosage modalities are incorporated into the protocol. A physiologic dose of **200IU/kg/day** is prescribed when high dose vitamin D criterions are not met. Therapeutic high dose recommendations start with **500 IU/kg/day.** The starting dose was established after observing that patients who improved their gut health, and as dysbiosis is treated correctly, high-dose vitamin D requirements tend to be less [9,13].

CLINICAL CASE

A 35-year-old female patient from Brazil was diagnosed with lupus seven years ago. She had altered ANA titers (1:640), Positive Anti-DNA autoantibodies (1:320) and positive Anti-smith antibodies (42 U/ml). The patient suffered from intense bilateral joint pain (polyarthralgia) in her hands, feet, and elbows and knees which limited her daily activities. Fingers and hands were swollen and could not perform basic tasks like making coffee or wringing a cloth due to severe pain (Image A).

Her rheumatologist started her on a combination of hydroxychloroquine, methotrexate (MTX), prednisone, folic acid, and calcium. After two years of treatment, she was no longer experiencing joint pain but had significant swelling due to the use of corticosteroids. The patient wanted to get pregnant, so her rheumatologist switched her from MTX to azathioprine, which thankfully did not cause any complications during pregnancy. After her son was born, one year and eight months later, her joint pain returned with more intensity. She was switched back to MTX, but it started affecting her kidney function. Her doctor tried to lower the dose, but she still experienced pain, and soon after developed alopecia areata (Image B), that was later confirmed by histopathology.

A differential diagnosis was needed since lupus can also induce hair loss, known as lupus discoid. The patient-initiated treatment with her dermatologist and received steroidal infiltrations on affected areas of the scalp. Her hair grew back but in patches. During that time, the patient had discontinued her lupus medications. However, 20 months later, her alopecia relapsed (Image C), and it was more severe. Areas of alopecia were evident in multiple sites of prior lesions and were two to three times larger in size. The patient had to cover the areas of alopecia with hair from other sites in order to conceal bald spots. Patient referred that she was depressed and feared going completely bald.



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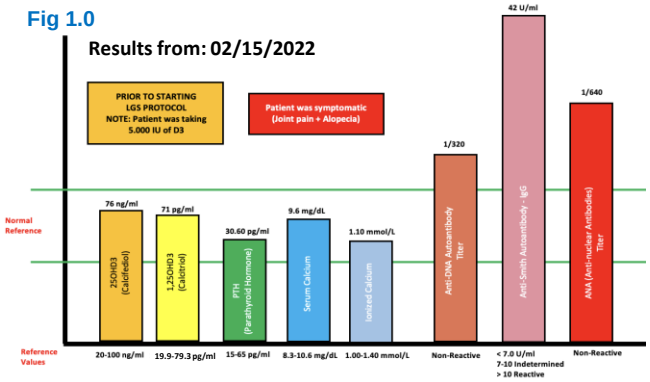
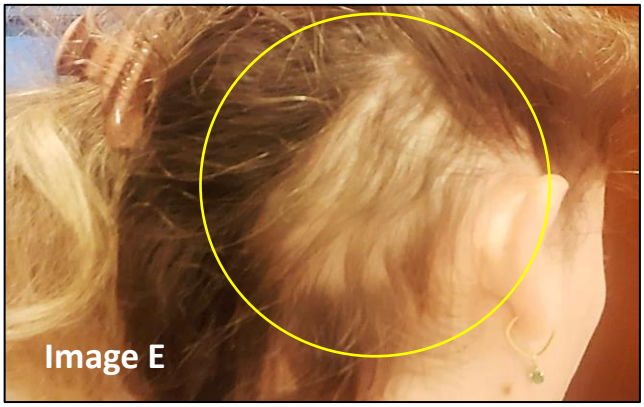
The patient found out about The LGS Protocol through a family member who was familiar with the protocol. She reached out to Dr. Eduardo Beltran, via tele consult and was introduced the to the high-dose vitamin D (HDVD) therapy alongside an anti-inflammatory diet (AID). She agreed to abide by the protocol and follow all recommendations. Laboratory work was collected prior to starting treatment. She was already **taking 5.000 IU of D3** before starting the protocol. Interestingly, 25OHD3 was above 50 ng/ml and 1,25OHD3 was also above 50pg/ml, which is considered a good amount in general (but this can be misleading at times). ANA, Anti-DNA and Anti-Smith antibodies were very elevated as depicted in Figure 1.0. Which translates to ongoing active disease process.

Fig 1.0

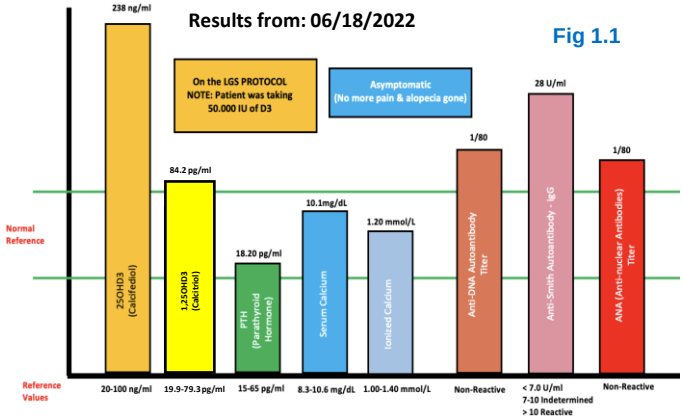


The patient was prescribed a daily dose of **50,000 IU of cholecalciferol** + cofactors following a strict *gluten, dairy, lectin, and sugar-free diet*. **Curcumin + Piperine 1000/10 mg** BID was also incorporated into the daily regimen since this helps with systemic inflammation and pain [15]. In less than one month into the protocol, patient referred significant improvement regarding her joint pain.

The pain and swelling in her joints, fingers (Image D), hands, and face, and the rest of her body improved significantly in only 3 weeks and disappeared completely in in four months. Patient was able to do her daily activities once again without pain and noticed no more early morning swelling in both hands and regained full motion strength.



She also started seeing her hair grow back again. as depicted on Image E. Laboratory work was repeated after a four month follow up into the treatment. There was a significant difference in her 25OHD3 (238 ng/ml) vs 1,25OHD3 levels (84.2 pg/ml) Figure 1.1. This finding is very suggestive of a genetic polymorphism perhaps involving CYP27B1 and VDR genes which are well known contributors for vitamin D resistance. Having single nucleotide polymorphisms of vitamin D genes is a common finding amongst autoimmune patients in our practice. In fact, >80% of our patient have this commonality in our practice.



Regarding ANA, Anti-DNA titers and Anti-Smith antibodies we can appreciate a positive shift improvement characterized by a considerable decrease in the synthesis of such antibodies. This correlated well with the patient's clinical improvement. Once again here we can see that serum and ionized calcium levels were within normal range which indicate **no vitamin D toxicity caused by HDVD** (Figure 1.1).

After 12 months on the LGS Protocol patient was completely symptom free. There was no more joint pain, swelling and complete hair growth was evident. Vitamin D levels (25OHD3 and 1,25OHD3) were stable (unchanged) and PTH levels was almost inhibited. Calcium levels were still within normal range. Her ANA, Anti-DNA antibody titers were within normal range and anti-Smith autoantibodies was 8.0 U/ml (undetermined) as shown in Figure 1.2. The patient was very pleased with the results of the treatment and was officially in complete clinical remission. She is currently doing all forms of physical activities, working as a schoolteacher, and taking good care of her son and family.

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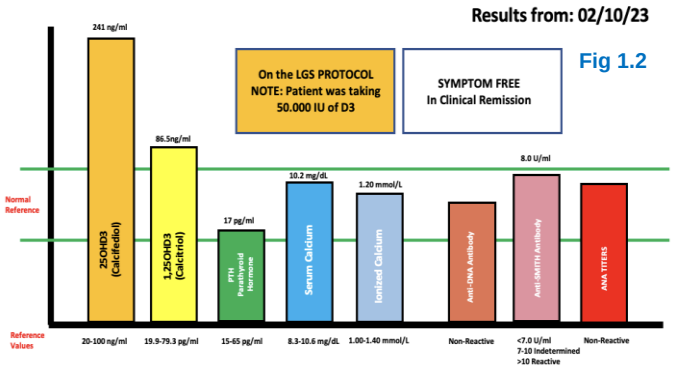

Fig 1.2

The use of high-dose vitamin D (HDVD) therapy alongside an anti-inflammatory diet (AID) has been shown to be effective in treating autoimmune diseases like lupus and alopecia areata. This case highlights the importance of an individualized approach to treating autoimmune diseases and the potential benefits of incorporating HDVD therapy + cofactors alongside an AID.

DISCUSSION

Systemic lupus erythematosus (SLE) is a chronic autoimmune disease that can cause inflammation and damage to various organs and tissues, including the skin, joints, kidneys, and heart. While current treatments aim to manage symptoms and prevent disease progression, they are not curative, and patients may still experience flares and complications. Therefore, there is growing interest in exploring new therapies for SLE and other autoimmune conditions such as Alopecia Areata (AA).

One promising approach is the LGS protocol. Vitamin D deficiency or insufficiency is common in patients with SLE and AA, and low levels of vitamin D may contribute to the development and progression of these conditions. The LGS protocol is designed to exclude foods that can cause inflammation, such as lectins, gluten, dairy, and sugar, and includes in order to restore normal microbiome diversity and balance. Use of probiotics can help to support such diversity and gut health, which is crucial in regulating immune function and inflammation.

The clinical case presented in the article shows a patient who adhered to the LGS protocol and experienced significant joint pain improvement in just 3 weeks, achieving hair growth in just 4 months, and full clinical remission after 1 year on the protocol. The success of this approach is multidisciplinary and underscores the potential benefits of a holistic, multi-faceted approach to treating autoimmune diseases like SLE and AA.

Overall, managing autoimmune diseases requires a comprehensive approach that addresses both the underlying immune dysfunction and the symptoms experienced by the patient. Vitamin D and its cofactors, alongside an anti-inflammatory diet, offer a safer and more effective complementary approach to traditional therapies for lupus or alopecia areata. However, regular monitoring and follow-ups are crucial to ensuring patient safety and treatment effectiveness. It's important for patients to work closely with their healthcare providers to develop and implement a treatment plan that best fits their needs.

CONCLUSION

In conclusion, systemic lupus erythematosus and alopecia areata are chronic conditions that can significantly impact a patient's quality of life. While current treatments aim to manage symptoms and prevent disease progression, they are not curative, and patients may still experience flares and complications that may derive from traditional medications. Furthermore, some treatments for AA, such as intralesional injections, which are painful can cause atrophy, scarring and permanent hair loss if not done correctly. Therefore, there is a pressing need for alternative treatment options that address the root cause of the underlying immune dysfunction.

The LGS protocol, which includes high-dose vitamin D + cofactors and anti-inflammatory diet, is a viable and safe alternative approach that has shown promising results. This protocol can improve patient outcomes and enhance their quality of life. Medical professionals should be knowledgeable about the potential benefits of complementary therapies and incorporate them into their patient care plans.

A holistic approach to medicine, which considers the patient as a whole, is essential in managing chronic diseases effectively. Medical education should equip future medical professionals with the knowledge and skills to provide a multidisciplinary approach to the management of chronic diseases. By incorporating holistic-nutritional approaches into medical education, we can ensure that medical professionals provide the best possible care for their patients, addressing not only the symptoms but also the underlying causes of the disease.

NOTES

HUMAN ETHICS

Consent was obtained by all participants in this study

Video Link

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