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Attenuated Phosphorus and Sodium Sulfate in Diabetes Mediated Vasculitis Treatment: 3 Case Studies

Nazmul Hasan^{1*}, Shabbir Ahmed¹, Md. Al-Emran Ali², Emrul Kayes²,
Md. Ariful Hasan¹ and Sheak Ahshan Habib³

¹Department of Genetic Engineering and Biotechnology, University of Dhaka, Dhaka-1000,
Bangladesh.

²Government Homeopathic Medical College and Hospital, Mirpur, Dhaka-1206, Bangladesh.

³Upazila Health Complex, Bhaluka, Mymensingh, Bangladesh.

Authors' contributions

This work was carried out in collaboration between all authors. Author NH designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors SA and MAH managed the analyses of the study. Authors MAEA, EK and SAH managed the literature searches. All authors read and approved the final manuscript.

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Case Report

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ABSTRACT

Vasculitis, a combination of disorders which affects and disrupts the blood vessels due to inflammation and abnormal immune system, may be predisposed to increased glucose in blood circulation commonly observed in a skin surface of extremities in other parts of the body as well. Multiple drugs have been introduced but unfortunately, the available treatments have several limitations including failure to control the inflammation, preventing multiple system involvements and various side effects, moreover, the complex condition may arise with increased glucose, thus, treatment with these medicines is not satisfactory. The current study involves three patients with different degrees of severity of cutaneous vasculitis have been treated conventionally with the lack

*Corresponding author: E-mail: nazmul_1979@yahoo.com;

of response. Combinatorial application of attenuated phosphorus and sodium sulfate engenders rapid remission from the further inflammation and eventually found curing the patients with no evidence of side effects. This alternative mode of treatment may provide a better insight to cure vasculitis efficiently. Thus, extensive study is required to explore the detailed mechanisms of the treatment with these attenuated medicines.

Keywords: Attenuated; phosphorus; sodium sulfate; diabetes; vasculitis.

1. INTRODUCTION

Diabetes mediated vasculitis refers to the inflammation of any category of blood vessels which brings changes in the vessel walls such as thickening, constricting and scarring resulting in damage of organs as there are obstacles in the normal blood flow as increased blood glucose in the circulating blood causing nerve damage leading to numbness, tingling sensation in the distal part of the affected part etc. which increases the risk of unnoticed injury for long; it may also arise if immune system mistakenly attacks the blood vessels [1,2]. The mechanism of nerve damage by glucose in blood is not completely understood yet, combination of factors likely play role, including the complex interaction between nerves and blood vessels; signal transmission of nerves may impede due to high blood sugar, which also weakens the capillary walls (small blood vessels) followed by lack of oxygen and nutrients supply in the nerves [1,3]. It may induce at any part of the body, mostly skin of extremities are prone to be affected and may turn in mild to life threatening consequences. However, initial detection and effective treatment can overcome the severe outcomes. The most commonly used medication is steroids like glucocorticoids [4] in addition to immune-suppressive drugs like Cyclophosphamide, used when vasculitis starts to damage vital organs [5]. Methotrexate or azathioprine is used if the disease is less severe [6] and among the newer designed drugs, rituximab seems promising in treating a number of severe types of vasculitis [7]. Severe damage of the organs by the active phase of disease requires surgery and all these available treatments for vasculitis have short term to long term side effects such as suppression of bone marrow, hepatotoxicity, resistance to antibiotics, failure in controlling inflammation, uncontrolled glucose level in blood, hypertension, pulmonary fibrosis, cataract etc. [8,9]. There are few reports presenting successful treatment of cutaneous vasculitis with potentized medicine without any adverse side effects [10].

Various skin disorders including inflammations, blisters, acne, psoriasis, skin rash had been treated with phosphorus from ancient times and also known to induce apoptosis in vascular smooth muscle cells [11,12]. Evidence of using phosphorus in the homeopathic system of medicine is common, especially in peripheral neuropathy, diabetes, diabetic neuropathy including general fatigue, pain in the muscles, thirst with dryness in the mucosal membrane, peripheral burning, joint pain, lack of bone density etc. [13,14,15]. In treating diabetes mellitus type-2 induced polyneuropathy, phosphorus showed significant improvement along with reducing blood glucose level and micro-dose of it shows more efficient activity [16,17]. Various inorganic salts in nanoparticle size including sodium sulfate help in wound healing [18] and low concentrated sodium sulfate help to retain the function of peripheral nerves [19].

In this current study, three patients of different ages suffering from diabetes mediated vasculitis were treated successfully with attenuated phosphorus and sodium sulfate, usually practiced in homeopathy. This alternative system of medicine follows few distinctive laws including 'like cures like', 'individualized medicine', 'minimum quantity of medicine' etc. is named 'Homeopathy' and improvised by Hahnemann which is first expressed by Hippocrates [20,21].

2. PRESENTATION OF CASES

Patient 1 (P1): A 58 years old lady with a history of diabetes (Figs. 4 & 5) for the last 26 years came with three medium-large skin lesions on her right tibial region. There was drooling of thick serum and pus coming out from her lesions although other surrounding tissues were firm and toned. Initially assumed abrasions like injury, later this was diagnosed as vasculitis and treated with conventional therapies for weeks with no significant improvement.

Patient 2 (P2): A 32 years old hyperglycemic (Figs. 4 & 5) female with early diagnosed vasculitis was being treated with conventional

treatment without any satisfactory response. Her lesion was cold and clammy, with severe pain and the surrounding tissues were observed firm and in a good tone.

Patient 3 (P3): A 50 years old male with previously diagnosed vasculitis on his left leg led by increased blood glucose level (Figs. 4 & 5), treated with conventional treatment for weeks but there was no satisfactory outcome.

All the patients were given steroid and broad spectrum antibiotics in general to control symptoms of vasculitis seen including feeble pulse, fatigue, burning and tingling sensation in the affected region. Images of the lesions including follow up were taken, fasting and 2 hours after breakfast blood glucose level were monitored. Noticeably, all three patients were non-addicted to tobacco, non-alcoholic and possessed good health with no complaint of other diseases including allergy.

3. MATERIALS AND METHODS

3.1 Images

With aseptic caution, multiple images captured using Asus Zen5 8 mega pixel camera periodically and follow up images were taken 4 weekly, compared with the previous then next medicine was prescribed.

3.2 Blood Glucose Level Measurement

Fasting blood glucose level and 2 hours after breakfast blood glucose level was measured weekly from the 1st day of treatment using a glucometer, and recorded for future reference.

3.3 Medicine and Dose

After clinical diagnose, all three patients were advised to take phosphorus orally in 30C dilution, 0.5 ml dissolved with 60 ml distilled water and distributed in 20 equal doses, and sodium sulfate 3X triturated tablets, 12 grains in twenty-four hours, for 20 consecutive days and asked to present the follow up after one week of finishing the medicine. With the satisfactory outcome, both of the medicines were suggested to be continued in same doses for next 16 weeks highest, maintaining the same earlier pattern; topical applications of any other drug was prohibited.

4. RESULTS

All the patients were found to be cured after a period medication, specifically, 12 weeks for P1 (Fig. 1), 4 weeks for P2 (Fig. 2) and 16 weeks for P3 (Fig. 3) varying with each patient's disease history, when the lesion areas were speculated and claimed the healing. In addition, with this combinatorial treatment, blood glucose level was found to be limiting gradually (Figs. 4 & 5).



Fig. 1. Images of P1. A) Before treatment B) After 4 weeks C) After 8 week & D) After 12 weeks of treatment



Fig. 2. Images of P2. A) Before treatment B) Magnified the lesion & C) After 4 weeks of treatment



Fig. 3. Images of P3. A) Before treatment B) After 4 weeks C) After 8 weeks & D) After 12 weeks of treatment

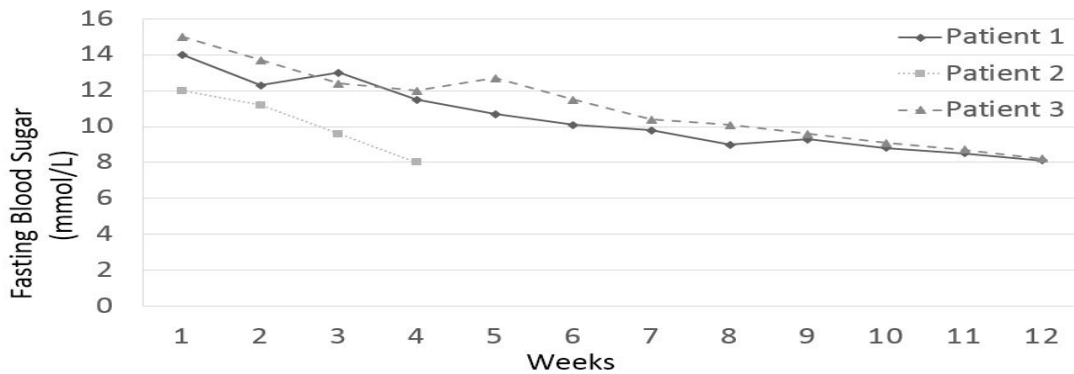


Fig. 4. Fasting blood glucose level during the course of treatment

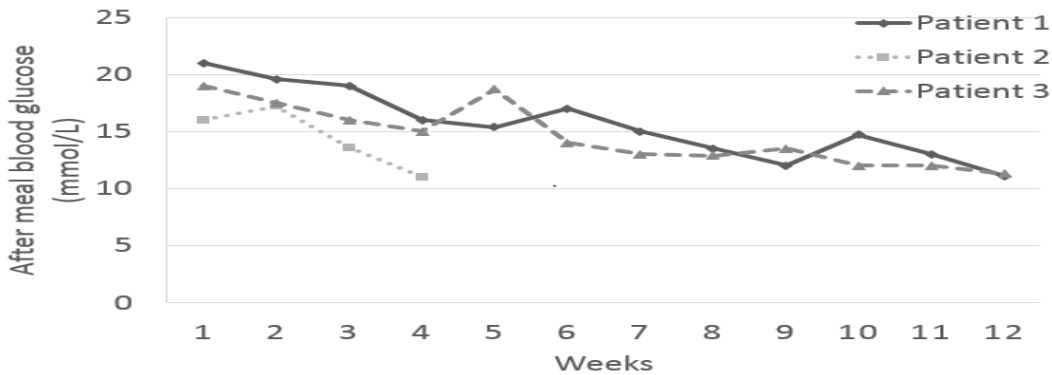


Fig. 5. Two (2) hours after breakfast blood glucose level during the course of treatment

5. DISCUSSION

Hypophosphatemia may cause various cellular damage in multiple systems producing a bunch of clinical manifestation including peripheral neuropathy, diabetic neuropathy etc. which are generated by micro vasculitis in the cutaneous layer of skin and phosphorus enriched supplement alter this condition [12]. Phosphorus helps in tissue healing, strengthening the cell membrane and hardening the intracellular bonding by facilitating adenosine

tri phosphate (ATP) synthesis [22]. On the other hand, sodium sulfate has been recorded as an element of treating hypernatremia, pain, and discomfort in skin and nails, supposed to increase intracellular osmolality and repair cells [23].

In conventional treatment strategies, it is difficult to control and treat vasculitis without side effects. In this study, vasculitis was treated using attenuated phosphorus and sodium sulfate in certain concentration as an intercurrent remedy

to faster the cure. This combinatorial treatment was effective and less time consuming compared to the available conventional treatments, yet early diagnosis and fast initiation of medicine are a very important consideration, P2 had earliest recovery (Fig. 2) in comparison with P1 and P3 (Figs. 1 & 3). All three patients were taking Insulin for a long time and following diabetic food chart prescribed by a reputed hospital in Bangladesh. Though they were not able to walk or perform any physical exercise in between the weeks of treatment, the blood glucose level was under control (Figs. 4, 5) and posed no adverse effects.

However, this method of alternative treatment has been followed for more than two hundred years, based on the regular usages and traditional evidence, we tried to emulate the treatment process for checking its credibility. We also hypothesized the possible mechanisms of action attenuated phosphorus is reported to induce apoptosis at a higher rate in vascular smooth muscle cells, ultimately reducing the autoimmunity of the blood cells at the deceased tissues. Simultaneously, sodium sulfate may be responsible to take control over the inflammation and inducing healing the damaged tissues by triggering tissue regeneration eventually inhibiting reincarnation of vasculitis.

6. CONCLUSION

Treating vasculitis is always a challenge as it has few verities according to ailments and management. Considering these factors, the current study shows a light of hope and presenting significant evidence of sustainability of homeopathic medicine. Detailed mechanism about the activities of phosphorus and sodium sulfate with the immune system should be established through necessary researches. Although it has been ignored for decades, it has potential success in treating a number of cases including various life threatening diseases. Modern world demands proper attention to this mode of alternative medicines to treat diseases in an efficiently safe way.

CONSENT

All authors declare that written informed consent was obtained from the patient for publication of this article and accompanying images and they had no objections to taking homeopathic treatment already famous in Bangladesh.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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