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Pernicious Anemia & Homoeopathy

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Abstract

On tracing the history of medical science, pernicious anemia was an occult disease till scientists deciphered the problem. The word 'Pernicious' means 'having a very harmful or evil effect on somebody or something. In a way, that is slow & not easily noticeable. The condition develops slowly were not easily noticeable in cases but also to the medical fraternity as they struggled to find out a solution to the problem.

Our body messes up in taking in Vitamin B12, a crucial nutrient to remain healthy. As it is an autoimmune disorder, the condition is critical & requires long intervention. That's why the article suggests the integration of homoeopathy of the ministry of AYUSH. The large scale homoeopathic integration will bring something different on the table.

The approach will not only bring something different to the table but also an approach that is cost effective, therapeutically active with zero side effects. This is the 'Benefit Triad' of homoeopathic system of therapeutics. On these lines, the therapeutic system meets the criteria of 'Essential Medicine'. Another significant benefit of homoeopathic integration is its use at all three level s of the health system. These are primary, secondary & tertiary levels of the health system.

At the end of the article, a treatment protocol is suggested for pernicious anemia based on the homoeopathic system of therapeutics. A treatment protocol makes things easy for all the stakeholders that are involved at various levels. The article also aspires that all the homoeopaths will find the protocol as a ready reckon to deal with pernicious anemia.

Keywords: Pernicious Anemia, Intrinsic Factor, Homoeopathy, Materia Medica, Miasms

Introduction

Pernicious anemia is an autoimmune disorder that hinders the absorption of vitamin B12 known as Cobalamine in the intestine. This occurs due to the Intestinal Intrinsic Factor (IF) deficiency. After being excreted in the bile from the liver, vitamin B12 is reabsorbed mainly in the small intestine. In the beginning, it binds to IF produced by gastric parietal cells in the duodenum & jejunum. After that, it is then absorbed in the terminal ileum. Therefore, the IF & vitamin B12 are the essential modalities to the disease [1-3].

In 1855, Thomas Addison described cases of anemia not responding to Iron therapy. He coined the term pernicious to describe the pernicious nature of the problem due to protean manifestations & severity of the anemia. The pernicious nature extended through demonstration of neuropsychiatric problems of these patients, their lack of response to iron therapy, the grave prognosis of the disease as these patients died within 1-3 years of the diagnosis [2, 4, 5].

In 1908, Whipple reported success of a liver diet in experimental drugs subjected to repeated phlebotomies. Subsequently in 1926, George Richards Minot & William P Murphy subjected 45 patients with pernicious anemia to a liver therapy. The liver therapy included raw liver with mutton/beef and fresh fruits [4, 5].

There was a significant improvement in majority of the subjects & some even recovered completely. For these observations, in 1934, Whipple, Minton & Murphy shared the Nobel prize. In 1935, William B Castle described the Intrinsic Factor. Castle observed that the liver therapy did not help all. Some recovered fully, some partially, some did not respond [6-8].

Hypothesis in Pernicious Anemia

There after Castle developed a hypothesis that there was an extrinsic factor in the liver diet in the form of Vitamin B12. It also needed an Intrinsic Factor from the stomach to complete its action. To prove his hypothesis, Castle consumed mutton & after that he aspirated his own gastric secretion. He transferred the aspirated gastric juice to the subjects of pernicious anemia who did not respond from liver therapy diet. There was remarkable recovery in all the subjects [6-8].

Here, the importance of the research design 'Observation' can be seen as meticulous observation only led to hypothesis & thereby testing of the hypothesis. This is 'Inductive Research'. Here, the hypothesis is made before the experiment & after the data collection & analysis, the hypothesis was tested and it was accepted. Hence, pure observation & testing of hypothesis involves all the social issues that surround the problem being studied. This is much superior to the Single Blind Control Trial (SBCT) & Double blind Control Trial (DBCT) methods under the 'Experimental' research design [6-8].

Patho-Physiology

The condition is an organ specific Auto Immune Disorder (AID) where the gastric mucosa is atrophic. The atrophy leads to loss of parietal cells thus causing IF deficiency. In the absence of IF, less than 1% of dietary vitamin B12 is absorbed [3].

The pivot of pernicious anemia is the insufficiency of vitamin B12 & this vitamin is a key stakeholder in our cell growth & cell reproduction. Vitamin B12 is mostly produced by microbes or tiny living things. The bone marrow that makes our red blood cells is affected by the deficiency of this vitamin. Adults usually have 3-5 milligram of vitamin B12 stored in their liver. These stores in the liver may last for a few years before the manifestation of disease [1].

Pathologic CD4+T cells mistakenly identify & promote an autoimmune reaction directed against the H+/K+ Adenosine Triphosphatase (ATPase) present in the parietal cell membrane. This process leads to a chronic inflammatory infiltrate that encompasses to the stomach wall [1].

Over a period of time or decades, atrophic gastritis progressively develops thus leading to the loss of parietal cells & their secretory products such as H+ & IF. Loss of H+ production in the stomach triggers achlorhydria. Achlorhydria is a condition in which the stomach does not produce hydrochloric acid. Low gastric acidity is a classical & important diagnostic criterion for pernicious anemia [1].

Epidemiology

Epidemiologically, anemia is a state of health where the condition is cross cutting to many ailments. It has been an issue that the country is still struggling with even after 77 years of independence. To add to that, the condition of pernicious anemia is the most complex form that is difficult to deal with [1-3].

The annual incidence of the disease shows that there are nearly 25 new cases per one lakh (1/10th of a million) adults over 40 years of age in developed countries constitute the annual incidence. It also occurs in children but pernicious anemia usually appears in the sixth decade of life or beyond. Thus, the average age of onset of the disease is 60 years [9].

The disease is more common in individuals with other Autoimmune Diseases (AD) like Hashimoto's Thyroiditis (HT), Grave's Disease (GD), Vitiligo, Addison's Disease (AD) or a Family History (F/H) of these diseases or pernicious anemia [3].

Generally, it is considered in elderly with a prevalence of 0.1% in general population & 1.9% in subjects over the age of 60 years. The disease is less than 4% in < 30-year age group [10].

Another study cites that vitamin B12 deficiency is widespread in Indian population. The preventive & therapeutic strategies need to be developed with the help of more data. The study also found that the diabetics had higher vitamin B12 levels compared to people with other endocrinal problems. The study also cites that the diabetics still had high prevalence of deficiency. The study enumerated that the prevalence of vitamin B12 deficiency was 47% in North Indian population [11].

Clinical Picture

Individuals with pernicious anemia are more susceptible to stomach tumors or damage to their nervous system. The classical sign is fatigue as there are not enough RBCs to carry oxygen where needed. This condition causes symptoms like dizziness, headache, cold hands & feet, paleness, breathing problem, chest pain & abnormal heart rate [1-3].

Lack of RBCs lead to poor oxygenation & this process leads to put pressure on the heart that must work harder to carry oxygen rich blood around the body. Thus, irregular heartbeats called arrhythmias, heart murmurs, an enlarged heart or even cardiac failure [1-3].

Diagnosis

There are difficulties in establishing a definite diagnosis of pernicious anemia because of lower incidence of circulating IF with histamine fast achlorhydria & poor vitamin B12 absorption. Pernicious anemia on the basis of absence or presence of IFA in serum & gastric juice cannot be over emphasized [12].

The diagnosis includes Complete Blood Picture (CBP), serum vitamin B12 level, serum Lactic De Hydrogenase (LDH) level, Methyl Malonic Acid (MMA) & Homocysteine (Hcy) levels are done as diagnostic approach towards the diagnosis of pernicious anemia [1-3].

Endoscopy may be done to look for signs of degeneration or atrophy. Thus diagnosis of pernicious anemia is done through comprehensive testing [1-3].

The finding of anti IF in the context of B12 deficiency is diagnostic of pernicious anemia. Anti parietal antibodies are present in over 90% of cases but are also present in 20% of normal females over the age of 60 years. A negative result for anti parietal antibodies makes pernicious anemia less likely but a positive result is not diagnostic [3].

The earlier Schilling test that involved measurement of absorption of radio-labelled B12 after oral administration before & after replacement of IF has fallen out of favor. There is now greater caution in the use of radioactive tracers & limited availability of IF. Currently, autoantibody tests are in use [3].

Treatment in Modern Medicine

The treatment includes lifelong vitamin B12 supplementation. Initially, the patient requires intramuscular injections & this is followed by high dose oral replacement to address inhibited absorption [1-3].

Lifelong B12 supplementations are usually necessary & dietary inclusion of fortified vegan options, meat, eggs, dairy is usually advised [1-3].

The Recommended Daily Dietary intake of vitamin B12 for men & women 20 years of age & older is 3.78 micrograms to maintain healthy hematologic status & serum vitamin B12 levels. The average daily dietary intake of vitamin B12 for children aged 2-19 years is 3.76 to 4.55 micrograms. The extent of IF secreted in the stomach is significantly compromised due to the destruction of gastric parietal cells by an auto immune response [1-3].

Way Ahead

The importance & need for awareness & medical support is critical to manage this complex condition of pernicious anemia. It is here that medical pluralism will come in handy where the integration of Homoeopathy to deal with pernicious anemia is critical.

Burden of the Problem at National Level

As per the incidence of pernicious anemia, there are 250 cases per million populations. In a country of 1300 million populations, there will be 1300*250=275000 number of cases in the country. These cases need vitamin B12 supplementation as an intrinsic factor.

Along with that, consumption of Green Vegetables (GV) & Green Leafy Vegetables (GLV) is critical to get vitamin B12 from the dietary sources.

Homoeopathic Integration

Homoeopathy sees pernicious anemia through the concept of miasms which are the fundamental causes of diseases & are infectious in nature. Here, there is a deficiency in the body where the Intrinsic Factor (IF) is absent in the stomach. As there is atrophy of the parietal cells of the stomach, the miasm is 'Syphilitic'. As the body cannot absorb vitamin B12, the miasm in the background is functional disturbance. Here, the miasm is 'Psora'. As a result of anemia, there are issues in the nervous system, heart and the musculo skeletal system. These are functional issues & hence the miasm here is 'Psora'. When the pernicious anemia patients become susceptible to gastric tumors, the miasm is 'Sycotic'.

Based upon this miasmatic analysis, the homoeopath has to prescribe the anti miasmatics based upon the case.

There are four medicines mentioned against the Rubric, Anaemia, Pernicious. These are 'Arsenic', 'Phosphorus', 'Picric Acid', 'Thyroidinum'. Depending upon the severity of the case, triturations or potencies of these medicines can be prescribed. If the blood picture is very poor, 'Arsenic' or 'Phosphorus' can be prescribed depending upon the generalities of the case. In case of severe neurological issues in the case, 'Picric Acid' can be prescribed either in triturations or potency depending upon the severity of the symptoms. In case of heart, skin & peripheral neuropathic issues, 'Thyroidinum' can be prescribed.

As there is gastric atrophy, the parietal cells need to produce adequate 'Hydrochloric Acid'. Hence 'Acid Mur-Q' needs to be prescribed in all cases.

As there is an issue of vitamin B12 absorption, 'Cobalt-3X' needs to be prescribed to all cases as there is a 'Cobalt' atom in the centre of the structure of vitamin B12. Similarly, 'Ferrum Ars-3X' can be prescribed for all cases. The chemical name of vitamin B12 is 'Cobalamin'. The trituration will help the body to produce the vitamin B12 from dietary sources.

To address fatigue & related symptoms due to less formation of RBCs, drugs like 'Haemoglobin', 'Iridium', 'Lecithin', 'China', 'Avena Sativa', 'Medicago Sativa' can be prescribed along with dietary pattern as mentioned above.

For heart issues, 'Zinc Iod', 'Natrum Iod', 'Amyl Nitrate' & mother tinctures like 'Glonoin', 'Crataegus', 'Cactus G' can be prescribed.

For high levels of LDH, MMA & Hcy, medicines like 'Prednisone', 'Cortisone', 'Curcuma Longa', 'Ferrum Iod', 'Ferrum Ars', 'Latrodectus', 'Colchicine', 'Resorcine', 'Aconitine', 'Emetine' can be prescribed.

As it is a complex issue involving an auto immune response where the parietal cells are destroyed, the drug 'Indol' & 'Syphilinum' need to be prescribed periodically [12-14].

Conclusion

The condition of pernicious anemia is related to micronutrients. The problem can be addressed at large only with the help of dietary practices & vitamin B12 supplementation.

The autoimmune component, vitamin B12 absorption, vegan diets, vegetarian diets have become barriers to address this complex issue.

It is here that the homoeopathic system of AYUSH can play an active role to address all these barriers. The cost effectiveness, clinical effectiveness & zero side effects are the properties of homoeopathic system of medicine that will help to cover masses & address this complex public health problem.

Declaration of the Lead Author

Prof. Shankar Das, a co-author of the current article was the Ph.D. guide of the lead author at Tata Institute of Social Sciences, Mumbai. Prof. D.P. Singh was the teacher of the lead author at TISS, Mumbai during 1995-1997. The lead author also certifies that he has expressed his personal opinion based upon his public health and clinical experiences. The treatment approach or the medicines suggested are only suggestive in nature.

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Conflict of Interest

Nil

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