

Term paper on celiac disease

Business, Management



Celiac Disease

Introduction

This is an autoimmune disease of the gastrointestinal tract. It is also known as celiac sprue, although this name is of less use unlike before. The term sprue simply represent a descriptive term in Dutch and it was used then as a term to describe a disease state characterized by diarrhea, emaciation, aphthous stomatitis, and mal-absorption (Cited in Green & Cellier, 2007).

Different components has been reported or implicated in the development of the condition. Important predisposing features are the diet, immune response, genetics and environmental factors. The genetic factor contributes in a minor population although there are several people with the predisposing traits to the condition. This is all about genetic predisposition of an individual with a familial history and the consumption of diet rich in gluten.

The epidemiological component of the disease shows an incidence rate of about 1 per cent of the population globally (Green & Cellier, 2007). The previous thought was as regards to association with only people of European descent but this is now been disproved because of the increasing rates among people in the middle east, Asia, south America and the north Africa (Green & Cellier, 2007). Several people do live with the condition without being diagnosed and there is no total cure yet for the disease however, there are factors that help reduce the damaging features of the pathology.

The 'gluten free diet' has been advocated by many researchers and this seems to be the management option present now. The question is that how effective is the gluten free diet in the management of celiac disease? This

will be the main focus of this paper. This is a form of review to evaluate the effectiveness of gluten free diet and associated shortcomings and complications in the process.

Critical aspects of the condition and effectiveness of ‘gluten free diet’

The immune component of celiac disease could be seen as one of the damaging factors resulting in the destruction of small intestine. The reason for this is clear, because some of the changes that do occur with immune response are related to cellular destruction. This is what could be noted in the case of celiac disease. Another major consideration is that celiac disease tends to affect people differently. This is because of the notable changes, signs and symptoms that people tend to experience. Some might have those changes being related to the digestive system while in some people, the main effects are experienced in other parts of the body. Irritability is an important feature of celiac disease especially in children.

The damage that does occur in the small intestines results in interference to the nutrients absorption. The major pathology is that which relates to the immune response leading to destruction of the villi. Since the villi are a major part of the small intestine that facilitates absorption hence a problem with that limits nutrients absorption. The problem of celiac disease is both a case of mal-absorption and immune issues. The symptoms as explained earlier are dependent on the person being affected. The symptoms in infants and young children are different from those of adults. The commonest symptoms exhibited by children are: abdominal pain, chronic form of diarrhea, vomiting, constipations, loss of weight, pale or foul smelling stool.

There are several symptoms that the adult tend to show, these include: unexplained iron deficiency anemia, fatigue, arthritis, osteoporosis, depression, anxiety, numbness, seizures, missed menstrual periods, infertility, cancer sores, and dermatitis herpetiformis. It has also been noted that there are several people with such illness that do not show any of those major symptoms. The reason behind such exceptions is yet to be identified. Those people are still predisposing to development of complications that are associated with malnutrition despite the absence of initial symptoms. The cancer of the intestine can also develop in such group of patients.

Celiac disease has also been found to be associated with some other major disorders. These disorders are considered to have some sorts of genetic link with the disease. Those associated diseases are: type 1 diabetes, autoimmune thyroid disease, autoimmune liver disease, rheumatoid arthritis, Addison's disease and Sjogren's syndrome. The diagnosis of celiac disease somewhat seem difficult in some cases because of the similarity of the condition to other disease such as the irritable bowel syndrome or iron deficiency anemia. The important diagnostic procedures or examinations are the blood tests, intestinal biopsy, dermatitis herpetiformis, and screening. Gluten is a form of protein found in wheat, barley and rye and it is usually digested poorly in the gastrointestinal tracts of humans. The implication of this is that it tends to stay longer than it should in the tract. Gluten has a fraction of about 30 percent that has been found to contain some toxic substances that are resistant to degradation of the gastrointestinal tract hence initiating an immune response when it interact with antigen presenting cells that are located in the lamina propria of the intestine (Green

& Cellier, 2007). The immune response initiates inflammatory reactions which are mediated by both innate and adaptive immune systems via the gliadin-reactive CD4+ T cells (Green & Cellier, 2007). The production of the tissue transglutaminase which is an enzyme, releases of metalloproteinase and some other tissue damaging mediators all contributed to the destruction.

Nutritional therapy involving gluten free diet is the only acceptable form of treatment for celiac disease (Green & Cellier, 2007). This has been based on the pathological understanding of the role of gluten and the associated immune response in the celiac disease formation. The point there is that once there is no available gluten that would initiate the inflammatory response, there is not going to be damage of the villi. In cases of patient with the certain level of destruction, the absence of gluten in diet promotes healing of the already destroyed component of the small intestine. However, there are some patients with poor prognosis i. e. after cessation of the consumption of gluten containing diet; they still have slow healing rate or poor prognosis in their management. In such patient there might be deficient clinical and histological improvement of the gastrointestinal tract. 7 to 30% of patient has been reported to exhibit such poor prognosis with 'gluten free diet' management (Green & Cellier, 2007). Systemic issues or non-adherence have been implicated in some of those people with poor response. However some are still without such and still shows poor response. The implication of this is likely not to be the problem with the effectiveness of the diet but another factor which contribute to the pathology.

Patients with Type 1 diabetes mellitus with celiac disease are group of

patient with issues with management with gluten diet. It also stated that asymptomatic patient with celiac disease do not benefit from gluten free diet (Volta, Tovoli, & Caio, 2011). But there are several situations that such patients present at a later period with complications induced by the celiac disease. In such a situation, till all the complications of the disease occur, those patients will not be placed on the necessary gluten free diet. Those patients that are placed on such diet too also fail to adhere to it because of the silent nature of their condition hence putting them at greater risks of complications (Volta, Tovoli, & Ciao, 2011). This is more of a psychological component and perception of the need for adherences when there are no visible effects. Volta, Tovoli, & Caio, (2011) also believed that not all cases of celiac disease in type 1 DM should be placed on gluten free diet because of the contribution of such to increased problems in the social life of the patients but could be initiated in patients with clinical evidence of symptoms or complications. Guandalini et al, (2011) consider gluten free diet as very effective in pediatric cases of celiac disease. This was related to the different changes resulting with adherence to such diet such as resolve in symptoms within few weeks, improved growth in height and weight with normalization of the hematological and biochemical parameters (Guandalini et al, 2011).

Despite some relative issues found to be associated with gluten such as weight loss, there are no other preventive measures or management that is usually instituted to manage the condition. This is because of the vague understanding available to scientist as regards to other factors that are actually contributory to the development of the disease. The inflammatory changes and destruction is yet to be fully described. This also contributed to

the lack of other approach in the management. The other appreciable management therapy is the use of multivitamins and corticosteroids in some situation. The essence of that is to correct the nutritional deficiencies that are associated with mal-absorption effects of the disorder. Corticosteroid is just for a short term use to actually depress the immunity which is the main culprit in the production of the substances that leads to the damage of the villi.

Conclusion

Celiac disease is a chronic disorder with good prognosis is diagnosed early and strict management protocols and follow up is instituted. Gluten free diets still remain effective in the management of the condition in with or without associated systemic disorder. It is also advisable to institute such dietary modification in patient that is already diagnosed of such but without symptoms so as to prevent the development of complications which could even be more disastrous if allowed to occur.

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