COMMENTARY: THE INTERNATIONAL FACE OF CELIAC DISEASE

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Celiac disease is a genetically determined chronic inflammatory intestinal disorder induced by an environmental precipitant, gluten(1). Patients with celiac disease are mount an immunologic

response to gluten, the main storage protein of wheat and similar proteins found in rye and barley. While much has been learnt recently about the genetic influence as well as the role of environmental factors, there are still many unsolved questions. The genetic influence is demonstrated by the ~10% occurrence in first degree relatives(2) and 70% concordance among identical twins(3). The HLA alleles that determine the presence of DQ2 or DQ8 are required for the disease. They however account for less than 50% of the genetic influence. Other genes have yet to be conclusively identified.

The environmental factors that are important for childhood celiac disease include both the amount of gluten given to children and the timing of gluten ingestion, as well as infections in childhood(4). The peak age of diagnosis in adults is in the fourth and fifth decades(5); however, factors that influence the age of onset in adults are unknown.

Formally considered a rare disease of childhood, limited to populations of European descent, recent studies have demonstrated the disease to be very common, affecting individuals of all ages from many diverse regions of the world. Several studies have demonstrated a prevalence of 1% among different European populations including Finnish school children(6), adults(7) and children in the United Kingdom(8).

The typical “face” of celiac disease is however changing. An example of this is recorded by Cataldo et al their paper describing celiac disease among immigrant children in Italy( ). This highlights the international nature of celiac disease. They report cases of celiac disease in children from East Europe, Northern, West and East Africa, Southern Asia, and the Middle East. The disease is common in several countries from these regions of North Africa(9-12), the Middle East(13-15), and South Asia(16-18). Whites in South Africa are, not unexpectantly, diagnosed with celiac disease(19), though the report by Kaven includes a Zulu patient with celiac disease(19).

The potential for celiac disease to become a major health issue in developing countries is highlighted by the report of the high rate of celiac disease in a population of refugee children in North Africa. In this study Catassi et al found 5.6% of Saharawi children to have a positive endomysial antibody(9). The endomysial antibody has a virtual 100% specificity for celiac

disease. This certainly raises important issues for the health of these refugee populations because the major grain supplied to refugee populations is wheat that is produced in excess by developed countries.

What about celiac disease in the Americas? Celiac disease is reported from Brazil(20), Argentina(21) and Chile, including native South American Indians in Chile(22). While there are no reports from Central America, there are reports from the Cuba(23, 24) and black children, of West Indian origin, resident in the United Kingdom(25).

In North America celiac disease is considered a rare disease by most practitioners, though the rate of diagnosis is increasing(26). Patients have a long duration of symptoms prior to diagnosis and see many physicians(5). Hopefully the awareness of the recent serologic studies demonstrating prevalence rates similar to Europe(27) and an NIH Consensus conference on celiac disease, planned for June 2004, will influence current medical practice and result in greater diagnostic awareness in the United States.

Currently there are few minorities diagnosed with celiac disease in the United States, though we have seen celiac disease among African Americans, people born in Cuba, Puerto Rico, the Dominican Republic and Asians from China and the Philippines. There is a low rate of diagnosis of celiac disease among minority populations in the United States because of lower frequency of HLA DQ2 or DQ8 and problems with access to health care services.

There are no studies that have specifically screened African Americans, Hispanic or native American populations in the United States. It is of interest that several studies in the United States have referred to celiac disease among non-whites and specifically African Americans. These include a blood donor serologic screening study(27, 28), a study of United States military veterans with celiac disease in which 7% were “non-white”(29) and in a study of people with iron deficiency(30) . A recent study from Canada described celiac disease among Asian-Canadians with origins from Northern India, Japan and China(31). In addition Freeman reported celiac disease in a North American native person(32).

The use of serologic screening tests has resulted in an increase in the rate of diagnosis of celiac disease in many diverse populations around the world, including groups not traditionally

considered to have celiac disease. Celiac disease is seen in many patients from developing countries, both in their native lands and as immigrants in developed countries. This has important implications for medical practitioners throughout the world as well as for authorities that will need to address the supply of gluten-free diets to those diagnosed with celiac disease.

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