Health Manifestations of Celiac Disease (CD)

Section B: Signs, Symptoms, Associated Disorders and Complications

Affected System	Affected Organ	ID No.	Manifestation	Type+	Current Medical Information ++	Deficient Nutrient
Nervous System	Brain: mind	224	Depression [1,207,208,209,211,212,213]	(AT)	[P] Depression is a feature of adult CD.[211] Depression is typical in adults at diagnosis of CD.[212] [D] Depression is a mood disorder characterized by absence of cheerfulness, dejection, and loss of interest or pleasure in living. It appears in untreated and treated CD patients. Malabsorption and amino acids and vitamin deficiency implicate reduction of synthesis of central nervous system (CNS) neuro-transmitters.[207] Initially present as a consequence of CD symptoms and malabsorption/malnutrition, depression may be sustained by reduced quality of life related in part to decreased sense of well-being, and in part to dietary restrictions, leading to social difficulties, such as fear of eating at restaurants or parties.[208] Study evaluating personality using the Minnesota Multiphasic Personality Inventory (MMPI) demonstated high score for depression. The score correlated with daily fat excretion but was unrelated to GI complaints.[211] Study evaluating cerebral perfusion in untreated CD patients demonstrated evidence of regional cerebral blood flow alteration. 73% had at least one hypoperfused brain area vs. 7% of patients on a GFD and none of controls.[209] Study evaluating the real nature of depression in classic CD patients at diagnosis and 1 year follow-up using the State and Trait Inventory test demonstrated treatment after 1 year on a GFD failed to reduce depression in a significant percentage of patients. Results could suggest patients need psychological support.[208] Study using the MMPI to evaluate response to GFD of newly diagnosed patients demonstrated no improvement after one year despite improved intestinal mucosa. After 3 years, following 6 months of 80mg/day of oral pyridoxine therapy, scores became normalized indicating causal relationship between adult CD and concomitant depression and implicating metabolic effects from deficient vitamin B_6.[212] Case report describes depression related to CD in a patient, age 41, with Down's syndrome who showed spectacular and lasting improvement of both psychotic and depressive symptoms after 12 months on a GFD.[213] [M] Marked by persistent feelings of guilt/ self-criticism, sense of worthlessness, irritability, poor concentration, insomnia or excessive sleep, and recurring thoughts of suicide/ death. [C] Results from unclear etiology involving malabsorption, immunological disregulation,[207] and cerebral blood flow alterations in CD.[209] [R] Improvement can be obtained on GFD.	EPA (impulse transmission), Protein, especially tryptophan (low serotonin) and tyrosine (low dopamine/ adrenaline), magnesium, zinc, thiamin, vitamin C, vitamin B complex, pyridixine, folic acid, vitamin B_{12}.

+ (S) = Classic sign/symptom; (AT) = Atypical sign/symptom; (AD) Associated Disorder; (C) = Complication.

++ [P] = Prevalance; [D] = Description; [M] = Sign/symptom; [C] = CD related cause; [R] = Response to gluten Free diet (GFD).