

Chapter 4

GLUTEN-FREE DIET AND PSYCHIC DEPRESSION IN CELIAC DISEASE

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ABSTRACT

Psychic depression is a common complication of somatic disorders, including celiac disease. Early studies viewed psychic depression in celiac disease to result from deranged personality factors mediated by inner neurotic conflicts in childhood. Subsequent studies applied appropriate self-rating depression questionnaires to assess symptom type and severity in adults with celiac disease. Using that procedure, three major components of psychic depression, termed reactivity, pessimism, and anhedonia-asthenia, were often identified in patients with celiac disease. We might expect a gluten-free diet to alleviate both the somatic disorders and the psychic disturbances of celiac disease, but that is not always the case. Several studies have, for example, noted a lack of beneficial effects of strict adherence to a gluten-free diet on aspects of psychic depression in celiac patients. In fact, a worsening of psychic depression has been reported, over time, in some celiac patients after starting a gluten-free diet. One explanation of that finding may be that celiac patients experience very stressful psychosocial demands while adjusting to a restricted, gluten-free lifestyle. Several pathophysiologic explanations have been advanced to account for psychic depression in patients with celiac disease, but none has been adequately tested. At present, professional counseling appears to be the best approach for lessening psychic depression in celiac patients on a gluten-free diet.

INTRODUCTION

Symptoms of psychic depression often appear in the course of somatic disorders [41, 50] and celiac disease is no exception [62]. Medical personnel are becoming increasingly aware

of psychic depression in celiac disease, thanks to several excellent recent reports [16, 45, 60, 68]. Today, medical personnel know that delays in diagnosing and treating both celiac disease and psychic depression are dangerous and must be minimized [13, 46]. One might assume that psychic depression in patients with celiac disease will remit once placed on a gluten-free diet. Sadly, that often fails to be the case. In fact, much evidence reviewed in this chapter indicates that symptoms of psychic depression may persist in celiac patients despite strict adherence to a gluten-free diet.

Early studies

The postwar popularity of Freudian psychoanalysis gave rise to speculation on intrapsychic conflicts and personality disorders in somatic illnesses such as celiac disease [54, 65]. One report stated that the personality of mothers contributes to celiac disease in children [52]. The personality structure of such mothers was said to be “based upon a tightly but not always successfully organized system of psychological defenses set up by the ego against inner anxieties which threatened to overwhelm its somewhat tenuous balance. The source of such anxieties appeared to lie in the operation of an inexorable super-ego, molded in most instances by rigid, perfectionistic parental handling during the childhood of the mother” [54]. The truth or falsity of that notion remains unknown.

Adults with celiac disease have also been claimed to have peculiar personalities that are characterized by emotional disturbances and depressive mentalities [52]. The primary physical symptom of celiac disease in early studies was diarrhea with fatty stools (i.e. idiopathic steatorrhea) [21, 22, 27]. Patients suffering from that disorder were said to have an “intestinal personality” in which stressful situations could precipitate the disease or cause it to relapse [52]. With regard to psychic depression, early case reports on personality traits of celiac patients claimed that mental disturbances could be both a cause and a consequence of the disease [22]. The notion that a characteristic type of mental disturbance may be causally linked with idiopathic steatorrhea received further attention as time went on [29]. In one study, celiac patients were interviewed on several occasions by a psychiatrist using a standardized assessment procedure in order to gain information on their psychological makeup. The interview contained a systematic assessment of symptoms that the patient may have experienced in the previous week, including several aspects of major depressive disorder. Patients were rated as depressive if they described clear episodes of depression that took place for no obvious external reason and lasted for at least 24 hours; these criteria excluded diarrhea as a possible cause of the depressive episode. Using this approach, depression showed up in 42% of patients with celiac disease, whereas no consistent personality traits were found to be associated with the disorder. We must also note that strict adherence to a gluten-free diet was no more common in celiac patients without psychiatric illness than in those with psychic depression [29].

Depression Rating Scales

The outcome of a study on psychic depression can depend on the methods used for evaluating the disorder [47]. Several self-rating questionnaires have been developed

specifically to assess psychic depression in adults [7, 10, 39, 70]. The Zung self-rating depression scale has, for example, been used to measure components of psychic depression in patients with celiac disease [19]. It consists of 17 – 20 statements specifically related to symptoms of depression. Factor analysis has indicated the Zung scale evaluates three categories that are characteristic of psychic depression in celiac patients. One category was termed “reactiveness” to encompass a tendency to cry, decreased energy, restlessness, and irritability. A second category was termed “pessimism”, which included lack of hope for the future, inability to make decisions, low sense of usefulness, and feeling that life is empty. A third category was termed “anhedonic-asthenic” to cover reduced sexual interest, sense of unclear mind, and difficulty in doing things. These three general aspects of psychic depression are to be found in patients with celiac disease as well as in people with depressive disorders in the general population [6, 42].

Some other rating scales have been directed mainly toward assessing quality-of-life in celiac patients [17, 37, 56], but those procedures typically have too few relevant items to provide a reliable assessment of psychic depression [42, 66]. For example, the most popular quality-of-life scale has only three items related to psychic depression, namely (i) feeling depressed to the point of considering suicide, (ii) feeling constantly downhearted and blue and (iii) feeling so sad, discouraged, and hopeless to the point of being just about ready to give up [17, 56]. The failure of studies using that scale to detect psychic depression in patients with celiac disease may stem from both the phrasing of items and the limited number of items specifically concerned with psychic depression.

Psychic Depression in Celiac Disease

An important series of studies noted severe psychiatric illness in undiagnosed adult celiac patients [31, 33, 34]. A standardized questionnaire known as the Minnesota Multiphasic Personality Inventory (MMPI, http://sevencounties.org/poc/view_doc.php?type=doc&id=8214&cn=18) revealed relatively high scores on the depression subscale in newly diagnosed adults with celiac disease, which provided strong indication of depressive tendencies. Further support for that notion came from reports of suicidal tendencies in patients with celiac disease, both before and after receiving the diagnosis [53]. One report described an anemic, suicidal teenager with celiac disease who recovered from both anemia and psychic depression in the course treatment with psychotherapy and a gluten-free diet. A subsequent large-scale study disclosed an increased risk of suicide in patients with celiac disease compared with the general population [46], with greatest risk noted in celiac patients during the first year after receiving the diagnosis.

Psychic Depression Relieved by Gluten-Free Diet

Some case reports have described improvement in psychic depression soon after beginning a gluten-free diet in subjects suspected of having celiac disease. In one study, pediatricians noted symptoms of sadness, apathy, catastrophic expectations, insomnia, and lack of daily activity in the mothers of infants with celiac disease [23]. Previously, the mothers had been treated with antidepressant drugs, but the women often failed to experience

a reduction in depressive symptoms. Each mother reported having had diarrhea and failure to thrive early in life. The pediatricians advised the mothers to follow a gluten-free diet, on the suspicion that their psychic depression was related to gluten intolerance. Within a few months, psychic depression abated and the mothers discontinued use of antidepressant medication. In another study, improvement in psychic depression was noted within 3 months after starting a gluten-free diet in some young patients with newly-diagnosed celiac disease [55], although a high dropout rate in that study tends to weaken the generality of the findings.

Psychic Depression Unaffected by Gluten-Free Diet

Several reports have found that a gluten-free diet has failed to alleviate symptoms of psychic depression in patients with celiac disease. In one study, patients filled out a self-rating questionnaire before starting the gluten-free diet and again after one year on the diet [1]. Using a cutoff score to define the presence of psychic depression, the study found no difference in the percentage of celiac patients with psychic depression before and after one-year on the gluten-free diet. Similar findings were reported in a subsequent study of one-hundred patients with celiac disease [26]. That study used both a semi-structure psychiatric interview and self-rating questionnaires to evaluate psychic depression. The psychiatric interview detected persistent symptoms of psychic depression in a quarter of the patients with celiac disease, despite their adherence to a gluten-free diet. Symptoms of depression were higher during the first three years on a gluten-free diet than thereafter, an indication that many patients with celiac disease may need several years to adjust their lifestyles and goals in accordance with the restrictions placed on them by a lifelong gluten-free diet [18, 35, 37]. Another study carried out follow-up examinations to assess psychic depression for at least four years in celiac patients [49]. A surprising finding was that self-rated psychic depression increased from 1 to 4 years after being diagnosed with celiac disease. The authors of that report attributed the rise in psychic depression to a lack of compliance with the gluten-free diet, but other explanations are likely, knowing that some reports have found strict adherence with a gluten-free diet to be without notable effect on psychic depression in patients with celiac disease [58, 59].

The question of whether adherence to a gluten-free diet can alleviate psychic depression in cases of celiac disease has been addressed also in a large-scale study of newly-diagnosed patients as well as patients who had been on a gluten-free diet for several years [61]. Both groups of celiac patients showed greater levels of psychic depression compared with healthy control subjects. What is more, psychic depression was greater in celiac patients who had been on a gluten-free diet compared with newly-diagnosed patients. That remarkable finding calls attention to the potential negative impact of psychosocial factors for psychic depression in celiac patients [4, 11, 19, 20]. Lack of effect of a gluten-free diet was also noted in a study that focused primarily on sleep disturbances in celiac patients [69]. Sleep quality was found to be markedly impaired in newly-diagnosed celiac patients as well as in patients that followed a gluten-free diet for at least one year. In addition to sleep disturbance, celiac patients showed more signs of psychic depression compared with a control group.

Psychic Depression with Gluten-Free Diet Plus Supplementary Treatment

Psychological Support

An important study determined whether a gluten-free diet plus professional counseling could lessen psychic depression in patients with celiac disease [2]. Newly diagnosed celiac patients who were affected by anxiety and depression were carefully selected and divided into two groups, one was placed on the gluten-free diet without counseling while the other was placed on the gluten-free diet with counseling. A self-rating questionnaire was used to assess psychic depression after 6 months of treatment. The results confirmed findings described above on the failure of a gluten-free diet alone to affect psychic depression. However, the gluten-free diet plus psychological support counseling managed after 6 months to reduce the number of patients reporting noteworthy symptoms of psychic depression. The report contains also a particularly insightful discussion concerning psychodynamic aspects of psychic depression in patients with celiac disease. It mentions that at first, psychic depression in undiagnosed patients with celiac disease may arise in response to a decreased sensation of general well-being caused by malabsorption and malnutrition. Then, once the diagnosis of celiac disease is made, the daily restrictions of a gluten-free diet may cause difficulties in social relationships.

Thus, the sensation of being different from others, of having unpleasant bodily sensations, and of being viewed as a sick person may reduce the social life for those with celiac disease, thereby contributing to psychic depression [2, 5, 19, 20]. Adverse psychosocial reactions of celiac patients to the requirements of a gluten-free diet may contribute to a negative view of the past, present, and future that is characteristic of psychic depression [8, 9].

Antidepressant Medication

Antidepressant medication is often the treatment-of-choice for patients suffering from major depressive disorder [51, 57, 67], but to my knowledge no systematic clinical trials have been carried out on the use of antidepressant drugs in patients with celiac disease. There have, however, been case reports on failed efforts to relieve psychic depression in celiac patients given antidepressant medication. For example, an extensive account of psychic depression in a young girl with celiac disease found sertraline, escitalopram, and bupropion to be without beneficial effects [11]. In this case, cognitive behavioral therapy, relaxation techniques, and hormone treatment for Addison's disease also failed to counteract the depressive condition. The symptoms of psychic depression did eventually improve, but the reasons for improvement were unknown.

Pathophysiologic Mechanisms

Several explanations have been advanced concerning pathophysiologic mechanisms that may be involved in psychic depression in celiac patients [15, 44, 55], but none has ever been conclusively proven. An association has been described between celiac disease and autoimmune thyroid disorders [14, 48], but the degree to which thyroid dysfunction can account for symptoms of depression other than fatigue in celiac patients is unknown. Because mood disorders are common with medical diseases that involve inflammatory processes [12], such reactions in celiac patients have also been implicated in psychic depression [15, 28, 46]. I know, however, of no study that has tested that notion directly with immune suppressant

medication in a double-blind, placebo controlled study of celiac patients. A third mechanism that has been engaged as a possible explanation for psychic depression in patients with celiac disease concerns abnormally low monoamine levels in the brain [15, 32, 40]. Correction of such deficiencies typically requires treatment with either monoamine precursors or antidepressant medication, but to my knowledge no double-blind, placebo-controlled clinical trial has been carried out to test the monoamine hypothesis for psychic depression in celiac patients. Yet another mechanism that has been advanced to account for psychic depression in celiac patients is B-vitamin deficiency [36]. That notion has, in fact, been tested in a clinical trial in groups of celiac patients on a gluten-free diet [38]. One group received a placebo tablet each day while the other group received a daily tablet containing B vitamins. The group given B vitamins showed a greater improvement in general well-being along with an indication of less psychic depression. Finally, one study has tested the notion that psychic depression in celiac patients may be linked with alterations in cerebral blood flow [3]. Brain imaging carried out using SPECT in that study showed regions with reduced cerebral blood flow both in newly-diagnosed celiac patients and in celiac patients on a gluten-free diet, but further longitudinal studies would be required to determine whether the flow disorders are causally linked with psychic depression.

Perspectives

Recent studies indicate that celiac disease has an adult prevalence of at least 1% in most countries [24, 25], placing it among the most common inflammatory intestinal disorders [30]. Because celiac disease can be accompanied by physical symptoms including diarrhea, steatorrhea, abdominal pain, and indigestion in addition to psychic depression [43], the condition can severely disrupt daily life and produce illness behavior [1, 26, 35, 63, 64]. Once diagnosed, people with celiac disease must avoid foods containing three of the world's most common grains, namely wheat, rye and oats, for the rest of their life. Needless to say, that situation can be stressful.

In my view, the main conclusion to be drawn from studies reviewed here is that strict adherence to the gluten-free diet often fails to alleviate the reactive, pessimistic, and anhedonic-asthenic condition that appears to characterize psychic depression in celiac disease. The symptoms of psychic depression in celiac disease may be elements of a bodily reaction to the adverse physical and psychosocial limitations imposed by the, at present, incurable disease [1, 49, 56]. Perhaps the best approach for dealing with those limitations consists of professional counseling directed toward giving celiac patients with psychic depression assistance in remodel their existence in accordance with the demands of a gluten-free diet.

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