Unintentional Weight Loss in a Renal Transplant Recipient: Do Not Overlook Coeliac Disease

Yalcin Solak,1 Abduzhappar Gaipov,1 Zeynep Biyik,1 Ramazan Ucar,2 Murat Biyik,3 Hasan Esen,4 Huseyin Ataseven,3 Suleyman Turk1

Abstract
Unintentional weight loss in a renal transplant recipient is an important condition, requiring diagnostic search within the framework of malignancy and opportunistic infections. To the best of our knowledge, there are no data in the literature reporting underlying coeliac disease as the cause of significant weight loss after renal transplant. We report a 32-year-old woman, who complained of significant weight loss during the 3.5 years posttransplant. Diagnostic work-up revealed coeliac disease, and a gluten-free diet stabilized her weight loss. Considering the high frequency of coeliac disease, this should be kept in the differential diagnosis of renal transplant recipients presented with weight loss and other suggestive features.

Key words: Coeliac disease, Weight loss, Renal transplant recipient, Transglutaminase antibody tests

Introduction
Celiac disease (CD) is an immune-mediated enteropathy triggered by exposure to gluten that is found mainly in wheat, rye, and barley that affects genetically susceptible people.3 Celiac disease is characterized by villous atrophy, intraepithelial lymphocytosis, and crypt hyperplasia.2 New advances in serologic and endoscopic modalities have markedly facilitated the diagnosis of CD. The gluten-free diet is the standard treatment for patients with CD and necessitates avoidance of wheat, rye, and barley. This diet generally results in clinical, serologic, and histologic remission.3 Unintentional weight loss in renal transplant recipients requires diagnostic search of several conditions; malignancy is of major concern. Additionally, weight loss after renal transplant may be associated with opportunistic chronic infections such as mycobacterium tuberculosis after prolonged immunosuppression, new onset type 1 diabetes mellitus, hyperthyroidism, and inflammatory bowel disease.

To the best of our knowledge, no case of coeliac disease after renal transplant has been reported in the literature. In our case, coeliac disease was the cause of weight loss.

Case Report
A 32-year-old woman (weighing 36 kg; body mass index, 16.1 kg/m²) had undergone renal transplant 3.5 years earlier. The patient was on standard triple immunosuppression treatment consisting of tacrolimus (2 mg/d), mycophenolate mofetil (720 mg/d), and prednisolone (5 mg/d). The primary cause of end-stage renal disease was Alport syndrome, and the patient had been given hemodialysis for 9.5 years before the transplant. There was no personal or family history of coeliac disease. The patient denied progressive weight loss before transplant. The patient was not evaluated for coeliac disease before renal transplant. Just after renal transplant, her weight was 45.9 kg that gradually
decreased to 40 kg and fluctuated. During the preceding year, she lost 14 kg, and this was the reason for further investigation for an underlying malignancy.

Abdominal sonography did not reveal any gross pathology. Laboratory data were hemoglobin 147 g/L, ferritin 256.1 pmol/L, urea 6.08 mmol/L, serum creatinine 35.3 μmol/L, albumin 41 g/L, triglycerides 1.32 mmol/L, total cholesterol 4.97 mmol/L, low-density lipoprotein cholesterol 2.97 mmol/L, glucose 4.93 mmol/L, thyroid-stimulating hormone 3.47 mIU/L, vitamin B12 326.8 pmol/L, 25(OH) vitamin D 282.8 nmol/L, and folic acid 7.56 nmol/L. Results of transglutaminase antibody tests (antigliadin and antiendomysial antibody) were negative. Results of an upper endoscopy showed reflux gastritis, colonoscopy defined stage 1 internal hemorrhoids, and the results of a biopsy taken from the second part of duodenum during her endoscopy showed stage 3 (by Marsh), consistent with coeliac disease (Figure 1).

Human leukocyte antigen (HLA) genetic test studied and HLA-DQ8 was observed positive. The patient was placed on a gluten-free diet and followed. After 6 months, she was asked for her weight gain, which she reported as 38 kg.

Discussion

Clinical manifestations of CD in adults are highly variable, including intestinal and extra-intestinal symptoms. The disease also may occur in individuals who are asymptomatic. In a retrospective analysis of adult CD, weight loss was the clinical presentation in 22% of the patients. In another large-scale report, weight loss was present in 69% of the studied patients.

The diagnosis of CD is usually made according to clinical, histologic, serologic, and genetic criteria. In our case, potential causes of weight loss were excluded. The diagnosis of CD was confirmed with moderate-to-severe mucosal changes in the intestinal mucosa and positivity of the genetic test, HLA-DQ8. Transglutaminase antibody tests (antigliadin and antiendomysial antibody) are an important criteria in the diagnosis of CD; although, serologic markers of CD were negative in our patient. Several studies in adults have identified individuals who were initially serologically negative but later developed a positive antibody. In addition, our patient was under triple immunosuppressive treatment for renal transplant, which may have impaired the ability to produce...
antibodies. In addition to negative serology, there was no apparent micronutrient deficiency either. She had no vitamin B12, vitamin D, iron, or folic acid deficiency.

In addition, our patient had coexistence of Alport syndrome and CD, and in both diseases, genetic alterations have an important role. The relation in the mechanism of development of these 2 diseases is unknown; however, there are no data in the literature about the coexistence of Alport syndrome and CD. On the other hand, Ludvigsson and associates report that CD increases the risk of chronic kidney disease. Patients with CD may be at a moderately increased risk of any form of glomerulonephritis. Collin and associates found a prevalence for CD of 3% to 4% among patients with IgA nephropathy. Association between CD and IgA nephropathy may be due to the high intestinal mucosal sensitivity to gluten.

When the patient was put on a gluten-free diet, she gained weight. This was the strongest support of our diagnosis of CD in this patient. Genetic testing revealing HLA DQ8 also was supported by the CD diagnosis because patients with CD have 95% HLA-DQ2 or HLA-DQ8 positivity.

Coeliac disease prevalence is 1% in the Northern Europe. Thus, it is actually a common disease. Despite this high frequency, we could not find any report of childhood onset or adult report of CD in a renal transplant recipient. Especially, patients with osteoporosis, weight loss, and several micronutrient deficiencies may have been missing owing to presence of alternative factors accounting for these disorders such as steroid use. Thus, possibility of adult CD should be borne in mind in patients presenting with potential clinical findings of CD.

References