

Celiac Disease and Pregnancy: A Case Report

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Abstract

Background: To report a case Celiac disease (gluten enteropathy) diagnosed during the investigation of recurrent abortion who was delivered term pregnancy following appropriate management.

Case: A 30 years old patient who had 2 abortions following infertility treatment has been diagnosed as celiac disease during investi-gation of abortions. After the stabilization of the disease, she got pregnant via ovulation induction and insemination. She was fol-lowed closely during pregnancy and elective cesarean section was performed at 38 weeks and 5 days of gestation. A male fetus with 2990 gr, 49 cm was delivered.

Conclusion: Although Celiac disease is a malabsorption syndrome, it may lead to serious maternal and fetal complications because of systemic effects of the disease. However, a successful pregnancy outcome is possible when pregestational diagnosis is made and proper management of the disease during pregnancy is achieved.

Keywords: Celiac disease, pregnancy complications.

Çölyak hastalığı ve gebelik: olgu sunumu

Amaç: Tekarlayan abortus sonrası incelemelerde çölyak hastalığı (gluten enteropatisi) tanısı konulan ve uygun destek tedavisi sonrası termde sağlıklı bir doğum yapan gebenin olgu sunumu olarak tartışılması.

Olgu: Infertilite tedavisi ile 2 kez gebe kalıp, düşük yapan 30 yaşında hastanın gebelik kayıpları nedeni ile yapılan incelemeler sırasında çölyak hastalığı tanısı konuldu. Hastalığın tedavisi sonrası tekrar ovulasyon indüksiyonu ve intrauterin inseminasyon ile gebe kalan hasta antenatal dönemde uygun destek tedavisi ile terme kadar izlendi. Gebeliğin 38 hafta 5 gününde elektif olarak sezaryenle doğurtuldu Bir adet 2990 gr, 46 cm erkek fetus doğurtuldu.

Sonuç: Tüm vücut metabolizmasını ilgilendiren olumsuz sonuçlara neden olan çölyak hastalığı bir malabsorbsiyon sendromu olmasının yanı sıra özellikle gebelik döneminde fetal ve maternal hayatı tehdit edecek komplikasyonlara da neden olabilir. Bu hastaların ancak erken tanı ve uygun destek tedavisi ile sağlıklı bir gebelik ve doğum gerçekleştirme şansı vardır.

Anahtar Sözcükler: Çölyak hastalığı, gebelik komplikasyonları.

Introduction

Celiac disease (also known as gluten sensitive enteropathy) is a prototype a malabsorbtive disease due to loss of the absorbtive area of the small intestines. The main problem in Celiac disease is increased sensitivity to gluten¹ Gluten is an essential component of wheat and similar cereals like oats, barley and rye and contains the protein gliadin. When the mucosa of the small intestine is exposed to gluten inflammation takes place lead-

ing to the loss of mucosal villi and as a result the intestinal surface area gradually and significantly decreases. In short resultant malabsorbtion causes celiacs most prominent and recurrent clinical manifestation hronic attacks of diarrhea.² Celiac disease although common in Skandinavian countries, does not yet have a reported rate of incidence in our country. However celiac disease can be seen with frequencies like 5.3/1000 in Sweden, 1/130 in Finland, 1/85 in Hungary, 1/340

in Norway and 1/330 in Holland.³ Celiac disease may appear to be a simple ailment involving the gastrointestinal system but on the contrary it is a malabsorption syndrome affecting the whole metabolism. Malabsorption may often lead to dental and gingival diseases, endocrinological dysfunctioning, problems involving the central nervous system (such as epilepsy) and musculoskeletal illnesses.⁴ It must also be borne in mind that symptoms related to the reproductive system may be the first and primary symptom of celiac disease. Patients yet to be diagnosed, may present with amenorrhea, early menopause and vaginal bleeding. Infertility is also seen with a higher incidence in celiac sufferers when compared to the unaffected population.⁵ Those that conceive (spontaneously or aided by assisted reproductive techniques), show a higher rate of recurrent miscarriages, intrauterine growth restriction, and problems like preeclampsia in comparison with the unaffected population.⁶ This case report aims to discuss how gluten sensitivity affected a patient's fertility and pregnancy outcome.

Case

A woman, 30 years of age with gravida 3, parity 0 and 2 miscarriages, not able to conceive despite a year of unprotected sexual intercourse, and applied to Gazi University, Faculty of Medicine, department of gynecology and obstetrics day clinic. In our approach towards infertility various tests were carried out her hormone profile was considered normal, a hysterosalpingogram proved her uterine cavity normal and the fallopian tubes were bilaterally patent. Her partner's spermogram was consistent with normal values. The patient underwent four trials of ovulation induction and intrauterine insemination, where two resulted in miscarried pregnancies. The patient's follow up visits revealed recurrent bouts of diarrhea and elevated liver enzymes. The patient was referred to a gastroenterology clinic for further evaluation. Results from a biopsy of the small intestine revealed atrophy of the villi, cryptic hyperplasia, increase of mononuclear inflammatory cells in the lamina propria and lymphocytic infiltration at the epithelial surface (Figure 1). The patient was hence after diagnosed

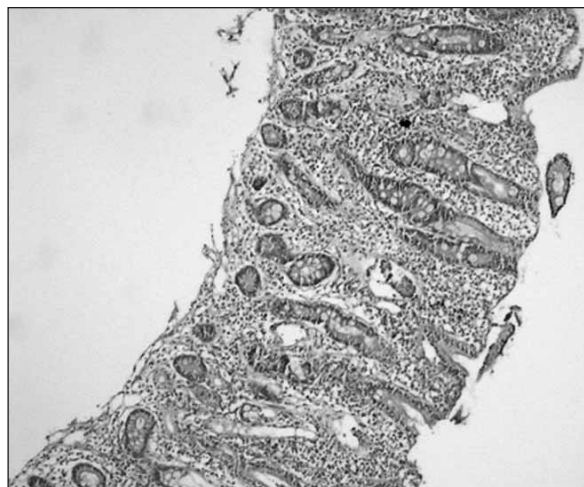


Figure 1. Histological view.

with celiac disease (gluten enteropathy). After diagnosis the patient conceived (aided by intrauterine insemination) for the third time. The patient was followed up with a routine antenatal programme, and supplemented with iron, folic acid and multivitamins. No problems arose during the following antenatal visits and the patient preferred an elective cross section at 38 weeks 5 days. The patient gave birth to a 2990g, 46 cm male with an Apgar score of 8/9. The patient's general status was good postoperatively and was therefore discharged on the second day (post operative).

Discussion

Celiac disease is defined as the permanent intolerance towards gluten including products. The immune reaction towards gluten and similar proteins occurs at the mucosa of the small intestine and causes temporary cytological damage.³ Celiac's most important symptom is diarrhea which results from the destruction of the absorptive cells lining the small intestine. However a patient with celiac disease may suffer from other symptoms besides those of the gastrointestinal system. Many results show that in comparison with the unaffected population, celiac sufferers have higher rates of infertility, recurrent miscarriages, intrauterine growth restriction and still birth.⁷ One report shows that the incidence of recurrent miscarriages and intrauterine growth

restriction is roughly 8.9 times more in celiac sufferers.⁸ Similarly another report shows that the rate of spontaneous miscarriages were 15% in this group and 6% in an unaffected control group.⁶ Our case demonstrates a history of both recurrent miscarriages and infertility. Another subject of importance, is that mothers diagnosed with celiac disease have a higher risk of carrying intrauterine growth restricted fetuses and giving birth to newborns with low birth weight. Basically this is related to malabsorption caused by recurrent attacks of diarrhea, gradually resulting in malnutrition. Bearing this in mind Ciacci et al, showed that untreated celiac sufferers had higher rates of intrauterine growth restriction and low birth weight compared to those who received appropriate treatment.⁸ Our case gave birth to a male newborn weighing 2990grams which showed no sign of intrauterine growth restriction (between 10-15 percentiles). Another notable point is that patients with celiac disease have an increased incidence of preterm births. It is thought that increased circulatory anti-glial and anti-endomysial antibodies secreted as a result of the autoimmune response responsible for celiac, may be the prime causative of preterm contractions.⁹ A retrospective study performed in Scandinavia reports the rate of preterm births (ie birth before the 38th gestational week) in patients diagnosed with celiac disease as 6.4%.¹⁰ Our case however gave birth by cross section at 38 weeks. Celiac disease, as we mentioned earlier is a prototype for malabsorption syndromes, caused by hypersensitivity to gluten. It is crucial for these patients and their fetuses to receive the daily amount of nutrition the increased metabolism requires during pregnancy. Research shows that the deficiency of certain essential trace elements and vitamins lead to considerable pregnancy complications and reproductive problems. For example; zinc deficiency may give rise to infertility, spontaneous miscarriages, congenital malformations, ablatio placenta, still births and the development of preeclampsia;¹¹ iron deficiency leads to increased rates of fetal- maternal morbidity/ mortality;¹² and folate deficiency has been found to cause congenital malformations, ablatio placenta and preeclampsia.¹³ We tried to avoid the development of these problems by supple-

menting the patient with multivitamins throughout her pregnancy. In conclusion, gluten enteropathy (celiac disease) is a malabsorption syndrome resulting from inflammation at the mucosa of the small intestine due to nutrients including gluten. It is considered a metabolic disease involving both the digestive system and many other systems. It is important in that it may lead to infertility, spontaneous miscarriages at early gestational weeks in reproductive females, and preterm contractions and birth, intrauterine growth restriction and preeclampsia in pregnant women. However, as demonstrated with this case, early diagnosis and appropriate therapy help reduce these complications.

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