RESEARCH ARTICLE
THE ROLE OF ANTI GLIADIN IGA AS A MARKER FOR CELIAC DISEASE IN RECURRENT PREGNANCY LOSS
Israa K. Al-Yasiri and Salma J. Al- Taei
Department of obstetric and gynecology in Al-Zahraa Teaching hospital- Najaf

ABSTRACT
Celiac disease has been associated with numerous unfavorable health outcomes, including pregnancy complications such as infertility, preterm birth, and preeclampsia. However, the association between celiac disease and recurrent pregnancy loss (RPL) remains uncertain. Our purpose was to evaluate the role of serum markers of celiac disease IgA gliadin antibodies in women with and without RPL. Therefore, we performed a case–control study of 81 women with recurrent pregnancy loss and 40 age-matched controls. Maternal sera were analyzed for immunoglobulin A (IgA) gliadin antibodies. Five cases and one control tested positive (2±2 Units) for IgA gliadin antibodies and mean levels of IgA gliadin antibodies were different in cases and controls (4.4 ± 2.3 versus 3.2420 ± 1.76482; p = 0.007). In conclusion, positive results for IgA gliadin antibodies were different in women with and without RPL. Given these results, testing for occult celiac disease is recommended in the evaluation of women with RPL.

© Copy Right, IJRSR, 2014, Academic Journals. All rights reserved.

INTRODUCTION
Celiac disease affects as much as 1% of the female population and a large proportion of people with active disease are undiagnosed. Previous research has suggested that celiac disease, along with other chronic inflammatory diseases, may be associated with reduced fertility and an increased risk of adverse pregnancy-related events. (Rostom et al., 2001; Dominitz et al., 2002 Buchel et al. 2002, Alstead and Nelson 2003 and Wood et al. 2003). Some have accepted that infertility is indeed a complication of celiac disease. (Green and Jabri, 2003).

Definitive explanations for these associations have not been proposed. Nevertheless, women with celiac disease tend to have a shorter reproductive period, with slightly later menarche and earlier menopause. (Smecuol et al., 199, Sher and Mayberry, 1996 and Martinelli et al. 2000). A plausible link to fertility or pregnancy problems also originates from the abnormal villous structure of the small intestine that is characteristic of celiac disease; it results in malabsorption and can lead to minor hematological abnormalities, anemia (West et al. 2003) and other selective nutrient deficiencies that play significant roles in pregnancy and fetal development. (Rostami et al., 2001) Of particular importance is the risk of having babies with neural tube defects. This risk is increased with folate deficiency in pregnancy, but it has not yet been linked with celiac disease (Moore et al., 2003, and Rothenberg et al., 2004). There are a number of serologic tests used for the diagnosis of celiac disease including anti-gliadin antibody (AGA), anti-tissue transglutaminase antibody (tTG), anti-endomysial antibody (EMA), and antideamidated gliadin peptides antibody (DGP). For each serologic test, both immunoglobulin A (IgA) or IgG can be measured, however, IgA measurement is the standard antibody measured in celiac disease (Rostom et al. 2006). Therefore, the current study designed to screening for anti gliadin IgA as a marker for celiac disease in women with and without a history of recurrent pregnancy loss.

MATERIAL AND METHODS
All patients were seen in the department of obstetrics and gynecology, Alzahraa Teaching hospital in Najaf, because of recurrent miscarriage of unknown aetiology during February 2013- to January 2014. Blood samples were available from 81 women with recurrent miscarriage and from 40 control women who belonged to the hospital personnel and had no problems related to reproduction. Serum samples were obtained from both groups and were aliquoted and stored at at -20°C until anti gliadin IgA antibody determination. The study was approved by the Ethics Committee of Alzahraa Teaching hospital. Anti gliadin IgA antibodies were determined using commercially available ELISA kits (Demeditec, Germany). ELISA was performed according to manufacturer instructions. Serum samples presenting results >12U/mL were considered to be positive for the anti gliadin IgA antibody.

Statistical analysis: These were used to accept or reject the statistical hypotheses, they include the followings: ANOVA test (F-test). The comparison of significant (P-value) in any test were S= Significant difference (P ≤ 0.05). NS= Non Significant difference (P>0.05). All the statistical analysis was done by using Pentium-4 computer through the SPSS program (version-14)

RESULTS
Our study performed as a case–control study of 81 women with recurrent pregnancy loss and 40 age-matched controls. Five
High prevalence of undiagnosed coeliac disease in women with reproductive failure.  

Although, women who have ≥4 abortion recorded a high mean IgA gliadin antibodies level (5.0782± 1.82783) in comparison with women who have two or three abortion (4.35 ± 2.49, 4.17 ± 2.08 respectively). However, There were no significant association between number of abortions and IgA gliadin antibodies level (P = 0.619) (figure 2).

**DISCUSSION**

It is widely agreed that diagnosing celiac disease only in individuals with the classical gastrointestinal symptoms leads to underestimation of the prevalence of active disease. In our present study we found five women (5 in 81) with recurrent miscarriage who had high concentration of IgA gliadin antibodies in the serum and should therefore be considered as having subclinical celiac disease. However, one woman in the control group had a similar increase in her serum IgA gliadin antibodies concentration, suggesting active celiac disease which was later confirmed on jejunal biopsy. The finding of five positive reactions among the 81 samples in this study is not in line with the recent results of case–control study of 116 women with unexplained recurrent pregnancy loss and 116 age-matched controls who found positive results for Celiac disease serum markers antibodies were similar in women with and without RPL. Rita et al.,(2013). Undiagnosed celiac disease is common and the diagnosis should not be missed in women with recurrent miscarriage since there is evidence that, in patients with celiac disease, pregnancy may ensue when they adopt a totally gluten-free diet, in addition to the other positive effects of the diet'. Our result were agreement with Collin et al. (1996) who screened 150 women with infertility for undiagnosed celiac disease with IgA class reticulin and gliadin antibodies. In their series, 4 out of 98 women suffering from unexplained infertility, but none of the controls, were found to have celiac disease. This suggested that the frequency of subclinical celiac disease might be as high as 4% in women with unexplained infertility, a significantly higher frequency than in the controls. Our results underline the importance of screening for celiac disease among women of reproductive age because some 1% of young people may have celiac disease (Ivarsson et al 1999; Martinelli et al 2000, Maki et al 2003; Bingley et al 2004; Greco et al 2004) and treatment seems to reduce dramatically the rate of complications in pregnancy. In addition, the current study revealed to there was no significant associations between number of miscarriages and IgA gliadin antibodies concentration that perhaps you need large number of sample for this study. In conclusion, undiagnosed celiac disease is common in adult women and IgA gliadin antibodies play an important role in diagnosis celiac disease in recurrent pregnancy loss women.

**References**


*****