



Restoring Health...Reclaiming Lives...

Pregnancy and Celiac Disease

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Pregnancy is an amazing and wonderful experience for most people. For those with Celiac Disease (CD), that can and should be no different. The two most important issues to consider when addressing celiac disease and pregnancy are 1. When was the CD diagnosed? Before, during or after the pregnancy? 2. Was the patient on a gluten free diet during the pregnancy? The outcomes can be very different depending on the answers to these two questions and will be discussed in relationship to:

1. Fertility
2. Pregnancy
3. Postpartum Period/Lactation

Fertility

Fertility encompasses not only one's ability to get pregnant but also the ability to maintain a pregnancy to the point of delivering a viable healthy baby. So, when discussing fertility and Celiac disease we will not only address getting pregnant but also the difficult subject of miscarriage or pregnancy loss. It appears from numerous studies on women suffering from unexplained infertility that the incidence of undiagnosed celiac disease in this population is somewhere between 1-3%. Some studies have even found the prevalence to be as high as 8%. Because of this, some clinicians advocate testing all women suffering from unexplained infertility for CD, but this practice is not universally accepted. At present, it is done at the discretion of the practitioner and patient. It is important to remember however, that many women who are diagnosed with CD in the process of an infertility evaluation rarely have symptoms, other than the infertility itself. This may make it less likely that a practitioner would consider CD in their initial assessment of infertility. Universally testing all infertility patients would alleviate this problem.

To date, most studies addressing infertility and CD are on women, but there are also several that have looked at infertility in men with CD. These few studies have found that undiagnosed CD in men also lowers fertility rates, probably by altering sperm motility and shape as well as causing a general state of malnutrition. This fact needs to be considered when working with infertile couples. In women the etiology is probably multifactorial. There are many problems seen in undiagnosed CD that would affect a woman's ability to achieve and maintain a pregnancy. Women with undiagnosed CD, on average, have menarche delayed by a year and enter menopause 3-5 years later than women with CD on a gluten free diet. These factors decrease a woman's total number of "fertile" years and her overall chance to have a child. Undiagnosed CD can also create irregular menstrual cycles often associated with anovulation, and can cause amenorrhea (no menstruation) in up to 39% of women with undiagnosed CD. All of these factors decrease fertility rates. A very recent study also looked at infertile women suffering from endometriosis and found 2.5% of them to have undiagnosed CD. This is 2 1/2 times greater than the normal population and another possible reason for infertility. Pts with undiagnosed CD also have been found to have lower levels of the hormone leptin which is involved in reproductive function through



several avenues. And, factors affecting a woman's desire to get pregnant such as chronic pelvic pain, dysmenorrhea (painful periods) and dyspareunia (painful intercourse) are also higher in undiagnosed CD. Thus, there are many reasons for decreased fertility in undiagnosed CD patients and the particular etiology varies from person to person.

Celiac disease has also been found in several studies to be a frequent cause of miscarriage and recurrent miscarriage. Miscarriage occurs 31% more in undiagnosed CD patients than the normal population. The reasons for this are dependant on each patient, but are the same reasons patients have difficulty getting pregnant. In addition, a recent study has shown that the anti-TTG antibody produced in response to gluten exposure in CD actually binds to the placenta. This may compromise placental function putting patients at higher risk for pregnancy loss and problems with the fetus. The good news is that once the diagnosis of celiac disease is made, and a gluten free diet is initiated, the majority of women have a resolution of their symptoms and their fertility rates return to whatever is normal for their age.

One may ask how long after being diagnosed do you have to wait before trying to get pregnant? The answer to that question is not well studied but most practioners would recommend waiting 6 months to 2 yrs depending on the woman's age and pre-diagnosis health status. It is of utmost importance that woman are healthy and in good nutritional status prior to attempting to get pregnant. This will optimize her chances for a normal pregnancy and healthy baby. In addition to the diet I would also recommend getting baseline nutritional labs on patients with CD who are trying to get pregnant. These labs vary from patient to patient but may include, iron and thyroid studies, folate and B-12 levels, vitamin D, Zinc, and essential fatty acids. These would be in addition to the standard prenatal labs.

Key Points: Fertility and CD

1. Getting the correct diagnosis of CD is imperative. Clinicians should think about it in any woman suffering from infertility/recurrent miscarriage. Infertility may be her only symptom of CD. Once the diagnosis of CD is made and a gluten free diet is initiated her chance of getting pregnant returns to what is normal for her age.
2. You MUST maintain a gluten free diet before, during and after pregnancy to optimize your chances of achieving and maintaining a normal and healthy pregnancy. Remember, a gluten free diet is for life in celiac disease.
3. You CAN have a normal pregnancy and a healthy baby despite celiac disease.

Pregnancy

Once you get pregnant and maintain the pregnancy what are the important factors relative to CD? The MOST important thing you can do is maintain a gluten free diet. This will keep you and your intestines healthy and will provide all the nutrients and calories you and your baby need. Of course, it is very possible to get and maintain a pregnancy with undiagnosed CD, or while eating a gluten containing diet with known CD, but you are at much higher risk for a poor outcome. Women with undiagnosed CD have been shown in numerous studies to have an increased risk of anemia, preterm labor, small for gestational age babies (low birth weight), and give birth to a higher number of stillborn infants.

There are no good studies on the incidence of birth defects in undiagnosed CD but these women often have deficiencies of nutrients responsible for organogenesis (formation of organs). Future



research may clarify what exact effects these have on the fetus. Of note, whether or not the risk of neural tube defects is higher in undiagnosed CD is an issue of ongoing debate. Studies are contradictory. One would think undiagnosed CD puts women at higher risk for a baby with a neural tube defect since undiagnosed celiac patients are at risk for folate deficiency. Folate deficiency correlates with an increased incidence of neural tube defects. But, the data is conflicting. Future studies may clarify this debate. The key point here is, once you are diagnosed and following a gluten free diet, the risk of a negative outcome with your pregnancy is equal to that of the normal population.

Key Points: Pregnancy and CD

1. If you are diagnosed CD the most important thing you can do for you and your baby is maintain a gluten free diet. This will minimize risk for a poor outcome and equilibrate your chance of a good outcome to that of the normal population.

Postpartum (Time after the birth)

Once you have delivered your baby, are there any issues of importance to a woman with CD? The most important issue still, is the need to maintain a gluten free diet. Women with CD who fail to follow a gluten free diet, have been shown to breastfeed for a shorter period of time. This is important for several reasons. Breastfeeding itself is one of the best things you can do for your baby as it provides complete nutrition and critical immune factors for your baby. In addition, with regards to celiac disease, one study showed that breastfeeding your infant, particularly during the time of gluten introduction, may significantly decrease their chance of acquiring celiac disease. However, the patients in this study were not followed for a prolonged period of time so it is not known if breastfeeding permanently decreases risk of developing CD or simply delays it.

Exactly when is the optimal time to introduce gluten to the child of a mother with CD? The answer is, we do not yet know. Prior research showed between 4-7 months was the ideal time to introduce small amounts of gluten to minimize the risk of CD development, but new preliminary data is showing it may be more optimal to wait until after the infant is 1 yr. old. It may be even later. We simply do not know. At any rate, breastfeeding appears to be protective against CD in some fashion and future studies will elucidate exactly how.

Key Points: Breastfeeding and CD

1. Breastfeeding may be protective against developing CD. It is not clear if it lowers risk permanently or simply delays the presentation of CD.
2. Optimal timing of gluten introduction to infants of mothers with CD is not yet known
3. If you have diagnosed CD you must still maintain a gluten free diet while breastfeeding.

Finally, what is most important to remember is, most patients with CD can have a healthy normal pregnancy if they are diagnosed and following a gluten free diet. It is an amazing time in life and there is no reason any woman with celiac disease should not experience it, if that is her desire.



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