

## What kind of Complications Can Occur during Delivery?

Having stated that women who have acquired MG will not pass on their MG to their children, we need to discuss transient neonatal MG (TNMG). TNMG describes a condition in which the baby has transient weakness due to being exposed to AChR-Abs from mother. A large study showed that TNMG occurred in about 4% of deliveries to women with MG (Jackson, 2003). Provided that TNMG is anticipated, it can be treated and the baby will not have any lasting problems. Due to the possibility of TNMG, pregnancies of women with MG should be considered as high risk pregnancies. They should be carefully monitored. Deliveries should be done in a hospital setting. The hospital should have staff who have experience with MG. Again, discuss the issues of following the pregnancy and the site of delivery with the physician who treats your MG.

Other findings of the above mentioned study were that mothers with MG were more likely to deliver in a university hospital and more likely to have a cesarean delivery. Cesarean sections are likely more common in women with MG, due to concern that women with MG are more likely to fatigue during labor. Good findings were that there were no differences in the average birth weight, age at birth, frequency of birth defects or stillborn rate of the newborns of MG mothers compared to other births.

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## Things to Consider if you Have MG and Are Thinking About Getting Pregnant

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Overall, the risk of pregnancy is higher in women who have MG, but that with careful monitoring women with MG can successfully birth healthy children. It is imperative that women with MG who are considering getting pregnant discuss pregnancy with the care giver treating their MG.

### Will My Baby Inherit My MG?

Most folks with MG have acquired autoimmune MG; the type of disease associated with antibodies to acetylcholine receptors (AChR-Abs) or to a protein called muscle specific kinase (MuSK). Women who have acquired autoimmune MG will not pass on MG to their children. The only women at risk for passing MG on are those with congenital (manifesting at or soon after birth) forms of MG, which are rare and which manifest in infancy or childhood. Please talk to the physician who treats your MG about what type of MG that you have.

### What Effects Does MG Have On Delivery?

The discussion of the study on pregnancy and MG (Jackson, 2003) indicated that the only complication of pregnancy that was higher in women with MG was premature rupture of the membranes holding the amniotic fluid. Women with MG were more likely to deliver via cesarean section, perhaps as a precautionary measure. While women with MG can successfully deliver babies vaginally, they are more likely to tire during a long labor, which may explain why cesarean sections are more common for women with MG.

### Will My Baby Be Healthy?

Overall the risk of birth defects is not increased for women with MG. When TNMG is anticipated, it can be effectively addressed. The baby will need treatment, perhaps for several days to a week, until the AChR-Abs from the mother have been removed or spontaneously broken down. Babies who had TNMG grow to be normal children. The overall risk of birth defects was comparable to pregnancies of women without MG. A rare birth defect that has been linked to MG is arthrogryposis. Arthrogryposis refers to muscle weakness and joint deformities that are present at birth. Women who have large amounts of a specific type of AChR-Ab, a type of Ab that targets the infantile form of the AChR, are more likely to deliver babies with arthrogryposis. The fortunate feature is that women who deliver babies with arthrogryposis usually do not have clinical MG. The subset of antibodies that cause arthrogryposis, do not cause symptoms in adults. Consequently, women who have MG are not likely to have babies with arthrogryposis. Severe arthrogryposis can be recognized by ultrasound prior to delivery.

### How Will My MG Treatment Complicate My Ability to Get Pregnant?

Women need to consider several issues and have extensive discussion with their physicians and other women who have been pregnant before they get pregnant. As pregnancy advances, women frequently feel fatigued. Fatigue can be more prominent in women with MG. Treatment with anticholinesterase medications, such as pyridostigmine (mestinon®), does not affect the ability of an individual to become pregnant nor is it known to appreciably complicate a woman's ability to carry a pregnancy. There is slight risk of anticholinesterase medication triggering or enhancing uterine contractions. Many people with MG are treated with medications that alter the immune system, immunosuppressive agents. Immunosuppressive agents include glucocorticoids, such as prednisone, azathiapriner, mofetil mofetate (CellCept®), cyclosporine and other

agents. It is essential if you are taking a medication or treatment to alter your immune system that you discuss the risks associated with getting pregnant when one is using that treatment. In general glucocorticoids can be continued during pregnancy.

### How Will Pregnancy Affect my MG?

About 1/3rd of women with MG will have a flare of their MG during the first trimester of pregnancy. In general, MG symptoms, with the exception of general fatigue, tend to decline during the second and third trimesters of pregnancy. In my experience, disorders of sleep, particularly sleep apnea are often under recognized in all people who have MG. As pregnancy advances, breathing during sleep can be compromised in any pregnant woman. I suggest that women who are contemplating pregnancy, discuss with their caregivers whether they should have a sleep study to evaluate their breathing when asleep. The usual treatment for sleep apnea, continuous positive airway pressure (CPAP), does not complicate pregnancy.

### Reference

Carlayne E. Jackson The effect of myasthenia gravis on pregnancy and the newborn. *Neurology* 2003;61:1459-1460 [The online version of this article, along with updated information and services, is located on the World Wide Web at: <http://www.neurology.org/cgi/content/full/61/10/1459>]

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