Propylthiouracil (PTU)

This sheet is about exposure to propylthiouracil (PTU) in pregnancy and while breastfeeding. This information is based on published research studies. It should not take the place of medical care and advice from your healthcare provider.

What is propylthiouracil?

Propylthiouracil (PTU) is a medication that has been used to treat hyperthyroidism (when the thyroid gland makes too much thyroid hormone) and Graves' disease (a common cause of hyperthyroidism). It lowers the amount of thyroid hormone that the thyroid gland makes. One brand name for PTU is Propycil ®.

Sometimes when women find out they are pregnant, they think about changing how they take their medication, or stopping their medication altogether. However, it is important to talk with your healthcare providers before making any changes to how you take your medication. Untreated hyperthyroidism can increase the chance of poor outcomes for a pregnancy, including thyroid storm (life-threatening overactive thyroid), maternal congestive heart failure, and other complications. Your healthcare providers can talk with you about the benefits of treating your condition and the risks of untreated illness during pregnancy.

I take PTU. Can it make it harder for me to get pregnant?

It is not known if PTU can make it harder to get pregnant. Untreated thyroid disorders might make it harder to get pregnant.

Does taking PTU increase the chance of miscarriage?

Miscarriage is common and can occur in any pregnancy for many different reasons. Three studies did not find a higher chance of miscarriage when using PTU during pregnancy. Hyperthyroidism has been associated with an increased chance of miscarriage.

Does taking PTU increase the chance of birth defects?

Birth defects can happen in any pregnancy for different reasons. Out of all babies born each year, about 3 out of 100 (3%) will have a birth defect. We look at published data to try to understand if an exposure, like PTU, might increase the chance of birth defects in a pregnancy.

It is not known if taking PTU can increase the chance of birth defects. Several studies suggest there could be a small increased chance of birth defects when taking PTU, while other studies do not. There has not been a confirmed pattern of birth defects linked to PTU exposure alone.

The U.S. Food and Drug Administration (FDA) and The American College of Obstetricians and Gynecologists (ACOG) have noted that PTU might be the preferred treatment for hyperthyroidism during the first trimester of pregnancy.

Does taking PTU in pregnancy increase the chance of other pregnancy-related problems?

It is not known if PTU can increase the chance of preterm delivery (birth before week 37) or low birth weight (weighing less than 5 pounds, 8 ounces [2500 grams] at birth). Hyperthyroidism has been found to increase the chance of pregnancy complications like preterm delivery and low birth weight.

Antithyroid medications, like PTU, or having Graves' disease, can lead to too low or too high thyroid levels in a baby. If you take PTU, or if you have Graves' disease, your baby's thyroid level should be checked after delivery.

The FDA has reported that PTU can cause serious liver damage in people who take this medication, including pregnant women. There is limited data on whether PTU use during pregnancy can cause liver damage in the baby. Talk to your healthcare team to decide what treatment is best for your situation.

Does taking PTU in pregnancy affect future behavior or learning for the child?

Two studies looking at 44 children (from preschool to adult ages) exposed to PTU during pregnancy found no difference in intelligence scores compared to their unexposed siblings. Untreated hyperthyroidism in pregnancy can increase the chance of learning problems in children.

Breastfeeding while taking PTU:

PTU gets into breastmilk in small amounts, and the amounts ingested by the infant are small. The American Thyroid Association has suggested that doses of PTU should be limited to 450 mg per day while breastfeeding due to the lack of research on the chance of liver damage in the breastfed infant. No side effects have been reported in babies who were exposed to PTU through breastmilk. Studies show that PTU does not significantly affect the breastfed infants' thyroid function. If you suspect the baby has any symptoms, contact the child's healthcare provider. Be sure to talk to your healthcare provider about all your breastfeeding questions.

If a man takes PTU, could it affect fertility or increase the chance of birth defects?

Studies have not been done to see if PTU could affect men's fertility (ability to get a woman pregnant) or increase the chance of birth defects. In general, exposures that fathers or sperm donors have are unlikely to increase risks to a pregnancy. For more information, please see the MotherToBaby fact sheet Paternal Exposures at https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/.

Please click here for references

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