

Breastfeeding and Medication



Carbimazole in women of childbearing age

Carbimazole is licensed for use to treat hyperthyroidism. Adequate treatment of hyperthyroidism in pregnant women prevents serious maternal and foetal complications. In Feb 2019 the MHRA issues a reminder that the use of carbimazole in pregnancy, especially during the first trimester, and at doses greater than 15mg per day, is associated with an increased risk of congenital malformations. All women of child-bearing age should use adequate contraception during use of this medication to avoid accidental pregnancy.

Teratogenic effects of carbimazole

Carbimazole crosses the placental barrier and is teratogenic. An EU review of available evidence from epidemiological studies and case reports concluded there was evidence that carbimazole is associated with an increased risk of congenital malformations, especially when administered in the first trimester of pregnancy and at high doses (15 mg or more daily).



(A) Aplasia cutis of the scalp; (B) Facial appearance of the patient. (Bowerman 2011)

Reported malformations include aplasia cutis congenita (absence of a portion of skin, often localised on the head), craniofacial malformations (choanal atresia; facial dysmorphism), defects of the abdominal wall and gastrointestinal tract

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(exomphalos, oesophageal atresia, omphalo-mesenteric duct anomaly), and ventricular septal defect.

Carbimazole must only be used during pregnancy when clinically indicated and after a strict individual benefit/risk assessment by a consultant and only at the lowest effective dose without additional administration of thyroid hormones. The use of carbimazole during pregnancy should be preserved for the situations in which a definitive therapy of the underlying disease (thyroidectomy or radioiodine treatment) was not suitable prior to pregnancy and in case of new occurrence or reoccurrence during pregnancy. If carbimazole is used during pregnancy, close maternal, foetal and neonatal monitoring is recommended.

Is it safe to take carbimazole in pregnancy?

Carbimazole use in early pregnancy is thought to slightly increase the chance of certain birth defects occurring in the baby. Mothers trying to conceive should speak to their doctor to consider changing to an alternative drug. It is important that normal thyroid function is maintained during pregnancy as the effects of an overactive thyroid can be harmful to both mother and unborn child. For some women carbimazole may be considered the best medicines to maintain normal thyroid function during pregnancy but they should be aware of the risks and enabled to make an informed decision. Propylthiouracil is less likely to cross the placenta than carbimazole and is usually considered the preferred anti-thyroid drug. The safest option is often to use propylthiouracil in early pregnancy, changing to carbimazole in the latter months.

Incidence of teratogenicity

- Studies suggest that fewer than two in every hundred babies who are exposed to carbimazole in the womb are born with these defects. In other words, at least 98 out of every 100 babies who are exposed to carbimazole in the womb do not have these birth defects.
- No studies have shown an increased risk in miscarriage linked with carbimazole use but further research is required as the studies were small. No studies have looked at the risk of stillbirth linked with the drug.
- An overactive thyroid in pregnancy has been linked to low birth weight in the baby and this may explain why some studies have found that babies of pregnant women taking

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carbimazole or methimazole tended to be smaller than expected. It is unclear whether this is due to the drug.

Newborn babies of women with Graves' disease may also experience other thyroid problems and thyroid function should be monitored after delivery.

Carbimazole and behavioural abnormalities

UKMI report that there are **isolated reports** of some children with birth defects believed to have been caused by exposure to carbimazole in utero also having learning or behavioural problems. However, no studies have shown that children exposed to carbimazole are statistically more likely to have problems with learning and behaviour than non-exposed children and most of the children who were exposed in the studies did not have structural birth defects.

What professionals can do

1. Ensure mothers who are taking carbimazole are aware that they need to take active contraceptive precautions (this would normally be at postnatal visits)
2. Remind mothers that they should discuss their wishes for future babies with their screening team before embarking on another pregnancy and that their medication may need to be changed
3. Ensure that newly delivered mothers have their thyroid function checked after delivery
4. Reassure mothers that breastfeeding or PTU or carbimazole (below 30mg a day) is compatible
5. Recommend that any women who finds herself pregnant whilst taking carbimazole should consult her doctor immediately

References

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<https://patient.info/doctor/hyperthyroidism-in-pregnancy>
- Thyroid Foundation, thyroid in pregnancy FAQs [ww.btf-thyroid.org/projects/pregnancy/203-thyroid-in-pregnancy-faqs](http://www.btf-thyroid.org/projects/pregnancy/203-thyroid-in-pregnancy-faqs)

Patient support groups

The British Thyroid Foundation <http://www.btf-thyroid.org/>

Thyroid UK <http://www.thyroiduk.org.uk/index.html>

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