Patient information

Pregnancy and Hyperthyroidism

Diabetes and Endocrinology Department

What is hyperthyroidism?

Hyperthyroidism is the term used to describe an over-active thyroid gland. The thyroid gland sits at the front of your neck, just above your collarbone. In normal health it produces enough of the hormone thyroxine (T4) to keep you well.

Thyroxine is the hormone involved in the body's metabolism, ensuring we use our energy at the correct rate and that all our organs and cells can work normally. It is made by the Thyroid gland in response to another hormone, Thyroid stimulating hormone (TSH) being produced by the pituitary gland. By stopping or releasing TSH the pituitary gland is able to maintain normal levels of thyroxine.

Most of the thyroxine (T4) in the blood is attached to a protein called thyroxine binding globulin (TBG) which prevents thyroxine from entering the cells. When it is not attached to a protein it is known as Free T4 and is available for uptake by the body's cells. Free T4 and TSH levels are important indicators in determining how active the thyroid gland is.

What happens to the thyroid gland during pregnancy?

Pregnancy results in a number of important physiological and hormonal changes that alters the size and function of the thyroid gland. In the first 12 weeks of pregnancy, the baby is dependent upon the mothers thyroid hormone. However it is important that your thyroxine levels remain in the normal range to ensure you remain healthy and your baby develops normally.

How does hyperthyroidism happen?

The most common cause of hyperthyroidism during pregnancy is caused by a condition called Grave's disease. Grave's disease occurs when your immune system becomes overactive and produces antibodies that attack the thyroid gland. This causes the thyroid to enlarge and make too much Thyroxine. Occasionally hyperthyroidism may be due to a small lump or lumps called nodules which develop within the thyroid gland. The nodules may produce higher levels of thyroxine leading to hyperthyroidism.

What will I feel like with an over-active thyroid?

There are many symptoms of an over-active thyroid gland and not everyone will have all the symptoms. In pregnancy, hyperthyroidism often presents as severe vomiting.

You may also have some or all of the following:

- A general feeling of nervousness or anxiety.
- Shakiness.
- Mood swings.
- Sweating and being unable to tolerate heat.
- Failure to gain weight even with a good appetite.
- General tiredness and weakness.
- Increase in bowel movements, maybe even diarrhoea.
- The thyroid gland can be enlarged; this can be seen or felt at the front of the neck, this is known as a goitre.
- Your eyes may become 'staring' and can sometimes feel gritty and irritated.
- Double vision, especially when looking upwards, can happen.

How is it diagnosed?

Doctors use the same methods for diagnosing hyperthyroidism in pregnant women as they do in other individuals: medical history, review of symptoms and blood tests to measure your TSH and free T4 levels. Doctors can also measure antibodies to confirm auto-immune disease.

How is hyperthyroidism treated?

When the diagnosis is confirmed, treatment is fairly easy. Medications, commonly known as ‘Anti-thyroid' (ATD) are usually given to decrease the amount of thyroxine produced by the thyroid gland. The aim of treatment is to keep your free T4 levels in the upper half of the non-pregnant range using the lowest possible dose of ATD medication.

There are two types of anti-thyroid tablets that can be given (Proplythiouracil and Carbimazole) depending on the stage of pregnancy you are at. You will need 4 weekly blood tests to monitor your TSH and free T4 levels to ensure you are on the correct dose of ATD.

The ATD of choice during the first trimester is Propylthiouracil (PTU). If you were being treated for hyperthyroidism prior to becoming pregnant and were taking carbimazole or a combination of carbimazole and thyroxine, you will have your medication changed to PTU for the first 12 weeks of pregnancy.

In very rare cases prolonged use of PTU can cause problems with the normal function of the liver. We will monitor the effects of PTU on your liver through blood tests and discontinue this treatment if liver damage is suspected. If you notice any yellowing of your eyes or skin you should see your GP immediately.

Due to the very small risk of developing liver problems with PTU, in the second and third trimesters of your pregnancy, the PTU will be changed to Carbimazole. We will arrange for you to have your TSH and free T4 levels measured after two to four weeks on the

Carbimazole and can either contact you by telephone to discuss your results or arrange for you to be reviewed in the ante- natal clinic.

Why not treat me with Carbimazole throughout my pregnancy?

In the early stages of pregnancy, carbimazole has a very small risk of causing a scalp condition on the developing baby's head known as 'aplasia cutis' and is therefore only given after 12 weeks of pregnancy.

You will be given a blood form to have TSH and free T4 levels checked a few days before your next telephone clinic appointment so that the results are available when you are contacted.

What side effects are there?

ATD's can cause rashes and itching but this is usually only temporary. Nausea (feeling sick) with mild stomach upsets and headaches have also been reported**.** Rarely, you can get a serious reduction in the white blood cells in your body. These cells help to fight infection in your body.

If you develop signs or symptoms of infection, especially a sore throat or unexplained bruising or bleeding, you should stop your tablets and seek medical advice straight away, so that your full blood count can be measured to check your white blood cell count. If your white blood cell count comes back as normal, you will be asked to restart your tablets.

How long will I have to take the ATD tablets for?

The usual treatment course is 18 months to two years. The exact time is decided on by assessing your response to the treatment. You will need to take the ATD's every day. During the treatment course you will be reviewed via the nurse specialist clinic at regular intervals to have your blood results checked and to allow for adjustment of the dose of anti-thyroid medication. This will also give you opportunity to discuss any problems or concerns you may have.

Grave's disease sometimes gets worse in the first three months after delivery and you may find the dose of anti-thyroid medication is increased.

During this time you will need to continue to have regular blood tests to check the TSH and free T4 levels.

What will happen to me if I don't take the tablets?

If you don't take the Anti-thyroid medication you are at increased risk of:

- Premature labour.
- Miscarriage.
- Blood pressure can increase.
- Pre-eclampsia.
- Increased problems with symptoms such as sweating and anxiety.
- Palpitations would get worse and your heart develops an irregular beat.

- If left without treatment, hyperthyroidism can cause very high body temperatures and sometimes unconsciousness.
- Thinning of your bones can also happen if hyperthyroidism is left untreated for many years. If your bones become thin they can break more easily.

What will happen to my baby if I don't take the tablets?

Untreated hyperthyroidism in the mother can lead to:

- Miscarriage.
- Baby's growth may slow or reduce during the pregnancy.
- Low birth weight.
- Increase heart rate.
- Still birth.
- Thyroid problems.

However, with treatment the outlook is excellent, the symptoms usually go and you and your baby are very unlikely to develop any complications.

Can I breast-feed my baby if I am on Anti-thyroid Medication?

Yes – although there may be a small trace of the medication in your breast milk, this is not enough to harm the baby or alter the baby's thyroid levels or affect tests for neonatal hypothyroidism (baby heel prick). However, it is recommended that you discuss the dose of your medication with your consultant, GP or midwife during pregnancy in preparation for breastfeeding.

What happens after the treatment course is completed?

Your specialist will review you in the clinic and advise you when to stop taking your anti-thyroid tablets. This is usually after 18 months to two years of treatment.

If your hyperthyroidism returns after completing the treatment you may have a return of some or all of your symptoms. If this happens you must see your doctor to discuss further treatment options. This means you should see your doctor at least once every year.

Would I be considered for radio-iodine therapy during my pregnancy?

No. Radio-iodine therapy, which can be given to treat hyperthyroidism, is absolutely contraindicated during pregnancy due to the risk of harm to your baby.

Feedback

Your feedback is important to us and helps us influence care in the future.

Following your discharge from hospital or attendance at your outpatient appointment you will receive a text asking if you would recommend our service to others. Please take the time to text back, you will not be charged for the text and can opt out at any point. Your co-operation is greatly appreciated.

Further Information

Please feel free to contact the Endocrine Specialist Nurses with any questions you may have. There is an answer machine where you can leave your name and contact details. We will return all calls.

The Endocrinology Specialist Nurses
Tel: 0151 706 2417
Text phone number: 18001 0151 706 2417

Related Patient information leaflets:

Thyroxine Replacement Therapy (PIF 504)

British Thyroid Foundation
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