

ANTITHYROID DRUGS

The two commonly used antithyroid drugs in Australia are:

- Carbimazole (5mg tablets)
- Propylthiouracil (PTU) (50mg tablets)

These medications work by blocking an enzyme responsible for production of thyroid hormone in the thyroid.

They are effective in managing conditions in which there is overproduction of thyroid hormone, causing hyperthyroidism (overactive thyroid), including Graves' disease and toxic thyroid nodules (either solitary nodules or toxic nodule(s) in a multinodular thyroid).

Minor side effects of antithyroid drugs

Minor side effects may affect up to 15% of people on Carbimazole/ PTU. These include:

- itching, rash, hives
- joint pain and swelling/fever
- changes in taste
- nausea, and vomiting

If one antithyroid drug causes side effects, switching to the other drug may be helpful. However, about half of people who have side effects with one drug will have similar side effects with the other. Nausea and vomiting may depend on the dose; spreading large doses out through the day can reduce side effects.

Major side effects of antithyroid drugs

Major side effects of antithyroid drugs are rare but it is vital that all patients are aware of these, as early recognition of symptoms can be lifesaving.

- Agranulocytosis — Agranulocytosis is a term used to describe a severe decrease in the production of white blood cells. This condition is extremely serious, and affects approximately one out of 300 people who take an antithyroid drug.

Agranulocytosis more commonly occurs within the first three months of starting treatment with an antithyroid drug, but can occur at any time. If you develop a sore throat, fever, or other signs or symptoms of infection, you should stop your medicine and immediately call your doctor or nurse to have blood test (Full blood count). You will often be provided with a request slip for a blood test in case of emergency at the time of prescription. Serious and potentially life threatening infections, or even death, can occur before agranulocytosis resolves. However, once the antithyroid drug is stopped, agranulocytosis usually resolves within a week.

- Other — There are three other very rare complications of antithyroid drugs: liver damage (more common with PTU), aplastic anemia (failure of the bone marrow to produce blood cells), and vasculitis (inflammation of blood vessels associated with PTU). Liver function tests will be regularly monitored during treatment.

Antithyroid drugs during pregnancy

PTU used to be the drug of choice during pregnancy because it has a lower risk of causing birth defects. But experts now recommend that PTU be given during the first trimester only. This is because there have been rare cases of liver damage in people taking PTU. After the first trimester, women should switch to carbimazole for the rest of the pregnancy.

- For women who are breastfeeding, carbimazole is probably a better choice than PTU (to avoid liver side effects).
- If you take antithyroid drugs, you should discuss your treatment with your doctor before becoming pregnant.

Monitoring during treatment

Blood tests including thyroid function tests, full blood count (to monitor white blood cells) and liver function tests are checked regularly during treatment (at least every 3 months).