Practice sting 2024-16

Practice sting Increasing dosage of thyroid medication during pregnancy

This Practice sting was written in collaboration with Pharmacovigilance Centre Lareb.

This Practice sting is particularly interesting for general practitioners, internist-endocrinologists, pharmacists, gynecologists and obstetricians

In women with hypothyroidism (underactive thyroid gland), the dose of thyroid hormone should be increased in early pregnancy. The notification below shows that not every GP is aware of this.

Notification

A 31-year-old woman calls her GP after a positive pregnancy test. She has hypothyroidism for which she takes 100 micrograms of levothyroxine daily. Her TSH and free T4 levels have been stable over the past year. She read on the internet that the levothyroxine dose must be increased immediately during pregnancy. The GP orders blood tests, which show normal TSH and free T4 values. The GP decides not to increase the levothyroxine dosage, even though this is the NHG advice (the NHG is the Dutch GP Association).

Analysis

From the fourth week of pregnancy on, the need for thyroid hormone increases under the influence of estrogens and HCG. This is necessary for proper development of the placenta and fetus. The fetus is dependent on maternal thyroid hormones for proper development in early pregnancy. Only in the twelfth week of pregnancy does the thyroid gland of the fetus begin to produce thyroid hormones. Healthy women therefore produce more thyroid hormones during pregnancy, but this is not possible in women with hypothyroidism. For example, poorly controlled hypothyroidism increases the risk of preeclampsia, placental abruption, anemia, miscarriage, premature birth, low birth weight and impaired cognitive development of the child. The Dutch NHG Standard for Thyroid Disorders recommends preventing these complications by increasing the dose of levothyroxine by 25% immediately at the beginning of pregnancy in women with hypothyroidism.
A national prospective cohort study by the Dutch Pregnancy Drug Register 'Moeders van Morgen', part of the Pharmacovigilance Centre Lareb, shows that the dose of levothyroxine is not increased at the beginning of pregnancy in 23% of pregnant women with hypothyroidism.

Recommendations

For healthcare professionals who treat women of childbearing age with hypothyroidism

- Discuss the expected increased thyroid hormone requirement during pregnancy with women with hypothyroidism and a desire to become pregnant.
- In all women with hypothyroidism, increase the dose of levothyroxine by 25% as soon as pregnancy is proven.
- During pregnancy, check TSH and free T4 once every four weeks, aiming for a TSH of 1-2 mU/l. If necessary, increase the levothyroxine dose based on TSH and free T4.
- Refer the woman to an internist-endocrinologist if proper adjustments are not possible.
- Immediately after delivery, reduce the levothyroxine dose to the pre-pregnancy level and check TSH and free T4 after six weeks.

For pharmacists

- Be alert to women who are pregnant and taking medication for hypothyroidism. Advise them to discuss the increased thyroid hormone requirement with the prescriber of the levothyroxine.
- After delivery, check whether the levothyroxine dose has been reduced to pre-pregnancy levels.

For gynecologists and obstetricians

- Be alert to women who are pregnant and taking levothyroxine for hypothyroidism. Advise them to discuss the increased thyroid hormone requirement with the levothyroxine prescriber if he or she has not adjusted the levothyroxine dosage.
- After giving birth, advise the woman to contact the prescriber of levothyroxine to reduce the dosage again.