Obstetric Pathways

WAHT-TP-094

Worcestershire Acute Hospitals NHS Trust

Hypothyroidism in pregnancy

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Key Amendments

Date	Amendments	Approved by

Introduction

Hypothyroidism affects 3-5% of all pregnant women. It may be overt- when women are symptomatic with a low free T4 (fT4) and raised Thyroid Stimulating Hormone (TSH), or subclinical- when women are asymptomatic with a raised TSH and normal fT4. The foetus cannot synthesize thyroid hormones until the 10th week of gestation and it is therefore dependent on trans-placental transfer of maternal thyroid hormones. Maternal hypothyroidism should be avoided as it is associated with an increased risk of spontaneous miscarriage, pre-eclampsia, IUGR and preterm delivery in the mother, and impaired neuro-psychological development in the baby

Details of Pathway

Management of hypothyroidism in Pregnancy

Pre-pregnancy:

- TSH screening for hypothyroidism is indicated in the following women considered to be at high risk:
    - Age over 30 years
    - Family history or autoimmune thyroid disease or hypothyroidism
    - Women with a goitre
    - In the presence of thyroid antibodies, primarily thyroid peroxidase antibodies
    - Symptoms or clinical signs suggestive of thyroid hypofunction (fatigue, sleepiness, lethargy, mental slowing, depression, cold intolerance, hair loss, dry skin, deeper voice, weight gain, arthralgia, muscle ache and stiffness)
    - Type 1 diabetes mellitus, or other autoimmune disorders
    - Infertility
    - Previous miscarriage and preterm delivery
    - Women with prior therapeutic head or neck irradiation or prior thyroid surgery
    - Women currently receiving levothyroxine replacement
    - Women living in a region presumed to be iodine deficient (no marine food intake or foods grown in iodine deficient soil)
- If hypothyroidism has been diagnosed before pregnancy, pre-conception levothyroxine dose should be adjusted to achieve a TSH level of 2.5mU/L or less and thyroid function tests (TFTs) i.e. TSH & fT4 re-measured within 4-6 weeks.

Antenatal Period:

- It is common to find hypothyroid women with suboptimal thyroid replacement therapy at the beginning of pregnancy.
- TFT should be checked and levothyroxine dose optimized in all hypothyroid women in the pre-pregnancy period or at least early first trimester to ensure adequate replacement and optimal pregnancy outcome.
- The maternal thyroxine requirement usually increases from about 4 weeks gestation and the dose of levothyroxine needs to be increased by 30-50% in women with treated hypothyroidism. This often means a proactive increase in levothyroxine dose by 25–50 microgram daily from confirmation of pregnancy, depending upon the pre-pregnancy dose.
- It is recommended that thyroxine dose be adjusted to keep TSH between 0.1-2.5 mU/L in the first trimester and 0.13- 3.0 mU/L in the second and third trimesters.
  - In overt hypothyroidism diagnosed during pregnancy, the levothyroxine dose should be rapidly titrated to reach achieve normal TSH levels and TFTs rechecked within 4-6 weeks
  - When serum TSH is first checked during pregnancy, the average increments of levothyroxine needed are:
    - 25–50 micrograms OD for serum TSH 5-10mU/L
    - 50–75 micrograms OD for serum TSH 10- 20mU/L
    - 75–100 micrograms OD for serum TSH >20 mU/L
- In patients on thyroxine replacement, TFT should be measured at least once during each trimester.
- Following any change in Thyroxine dose, TFT should be repeated after 6weeks. Adjusting the levothyroxine dose more frequently than 4-weekly is not recommended.
- Subclinical hypothyroidism is associated with an adverse outcome for both the mother and offspring. Thyroxine treatment has been shown to improve obstetric outcome, but not long-term neurological development in the offspring. However, given that the potential benefits outweigh the potential risks, thyroxine replacement in women with subclinical hypothyroidism is recommended.
- An isolated increase in TSH without low fT4 in women on thyroxine replacement does not usually require thyroxine dose adjustment.
- Thyroxine replacement in women with a normal TSH but a low fT4 is at the discretion of the consultant, with adequate monitoring.
- The absorption of Thyroxine is affected by oral iron. If patients are prescribed both, advise to take at least two hours apart.
- Women with well controlled hypothyroidism may be suitable to birth on the Meadow Birth Centre.

Monitoring of baby:

- All neonates have their TSH measured as part of the Guthrie heel prick test.
- Neonatal hypothyroidism is very rare and thought to be due to transplacental passage of TSH receptor blocking antibodies.
- These antibodies are more common in women with atrophic, rather than Hashimoto's thyroiditis.

Postnatal Period:

After delivery, most hypothyroid women need a decrease in the thyroxine dosage they received during pregnancy.

- Pre-pregnancy dose of Thyroxine should be resumed immediately following delivery. TFTs should be checked at 6 weeks post-partum by the GP for all women treated with thyroxine during pregnancy.
- Post-partum thyroiditis (PPT) may occur in 5-10% of women. Women at high risk for PPT should be screened at six to twelve weeks postpartum via assessment of serum TSH. These high-risk groups include:
    - Women known to be thyroid peroxidase Ab+
    - Women with type 1 diabetes
    - Women with a prior history of PPT