

Thyroid medication (under and over-active) and Breastfeeding

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Under-active thyroid

A mother with an under active thyroid needs to take medication to return her blood levels to "normal". The dose of the drug is regulated by therapeutic drug monitoring. It is worth repeating blood levels after delivery as anecdotally, fluctuations seem common at this time. If the supplementation is too low, prolactin levels will be affected resulting in a poor milk supply. The correct dose gives a mother the level of levothyroxine of a normal breastfeeding mother. Symptoms of an under active thyroid include gain in body weight, dry skin and hair and tiredness.

Levothyroxine is secreted in extremely low levels into breastmilk, if at all. It is highly bound to proteins in the maternal plasma. The estimated level to which the baby will be exposed is theoretically 0.6 nanogrammes per kilogramme per day – virtually undetectable. Levels secreted into milk are too low to influence tests for neonatal hypothyroidism.

Over-active thyroid

A mother with an overactive thyroid gland produces raised levels of levothyroxine and will experience symptoms which may include tachycardia (increased heart rate), sweating, heat intolerance and loss of body weight. Symptoms are initially controlled by anti-thyroid drugs (carbimazole or propylthiouracil) and beta blockers. In some cases, the gland is removed surgically or by the use of radioactive iodine and levels replaced by synthetic levothyroxine.

Primary Hyperthyroidism: Carbimazole is the recommended choice of antithyroid drug, with propylthiouracil considered for those in whom carbimazole is unsuitable (BNF)

Graves' disease: Carbimazole should be offered as first-line definitive treatment if radioactive iodine and surgery are unsuitable treatment options. Consider propylthiouracil for patients who experience side-effects to carbimazole, are pregnant (Jones) or are trying to conceive within the following 6 months or have a history of pancreatitis.

Carbimazole (Neomercazole®) reaches sub-clinical levels in infants exposed to less than 30milligrammes a day through their mother's breastmilk. The theoretical infant dose is 6.45 microgrammes per kg per day. If this drug is used monitoring of the infant's thyroid function is recommended but not always essential. No cases of thyroid function alteration have been reported (Hale).

Propylthiouracil (PTU) is secreted into breastmilk in only small amounts and reports suggest that levels are too low to produce side effects. At doses of 400milligrammes, a study of 9 women and

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their babies showed no change in infant thyroid function (Kampmann 1980). A further study has shown that up to 750milligrammes produces no changes (Momotani 2000). Monitoring is recommended but not always essential. No cases of thyroid function alteration have been reported (Hale). Theoretical infant dose is quoted as 0.105milligrammes/kg/day (Hale)

Propranolol is the most frequently used beta blocker. Low levels of propranolol are secreted into breastmilk, so amounts ingested by the infant are small and would not be expected to cause any adverse effects in breastfed infants. Studies during breastfeeding have found no adverse reactions in breastfed infants clearly attributable to propranolol (Lactmed).

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