Newborn Services Clinical Guideline

Domperidone (Motilium) as a Galactogogue
(Domperidone and Breast Feeding)

Rationale

Domperidone is a peripheral dopamine-receptor antagonist used in the treatment of dyspepsia, reflux oesophagitis, and nausea and vomiting. One of its side effects is an increase in prolactin levels.1,2

Unlike metoclopramide that works centrally, domperidone works on peripheral dopamine receptors in the GI wall and CTZ centre of the brainstem.1 Its effects on prolactin secretion occurs at the pituitary level (outside the blood-brain barrier)2. Domperidone is less lipid soluble, has a larger molecular weight (426), and is highly protein bound (93%)1, as compared to metoclopramide. Combined with the peripheral action this results in fewer central side effects such as anxiety, depression and extrapyramidal symptoms2 and less medication crossing through into breastmilk. Because domperidone crosses less freely into breastmilk (compared with metoclopramide) the possible risks to the infant are also reduced.3 There has been some concern of the possible effect of dopamine antagonists on the functional maturation of central dopamine mechanisms in newborns (identified in experiments on rats)4.

Da Silva showed a milk domperidone concentration of 1.2ng/ml, after a dose of 10mg three times per day, measured on day 5 from randomly selected samples2. This is compared with 125.7ng/ml of maxalon from milk samples taken 2 hours after a dose of 10mg of metoclopramide4.

Efficacy

Domperidone has been approved by the American Academy of Pediatrics (AAP) for use in breastfeeding1 and is currently the only galactogogue that has been
scientifically evaluated through a randomised, double-blind placebo-controlled trial. This trial by da Silva et al. showed milk volume increased by 44.5% in the domperidone group compared with 16% in the placebo group (p<0.05). There was a steady increase in milk volume commencing 48 hours after initiation of treatment up until day 7, which was the last day of medication. This correlated with a rise in serum prolactin in the domperidone group, rising from 12.9 trial µL [SD7.7], measured as baseline, to 119.3 [SD97.3] µL of a randomly sampled blood test on day 5. The serum prolactin levels returned to baseline 3 days after treatment was ceased.

Dosage

1. 10-20mgs, orally, 3-4 times per day
   2. A prescription for 2 weeks should be given initially and may be repeated if necessary. The medication may need to be continued for up to 8 weeks, however the long-term use of domperidone has not been studied.
   3. There is little evidence to guide practice as regards to when to start, how long to continue and how to wean from domperidone.

Precautions, Interactions, and Adverse Effects

1. Prescribers should be aware of maternal conditions or medications that may be affected by domperidone
   2. Dosage should be reduced if there are underlying maternal renal or hepatic conditions.
   3. Domperidone use should be avoided with antacids and antisecretory agents.
   4. Medications that inhibit the Cytochrome P450 enzyme system (e.g. azole antifungals, macrolide antibiotics, HIV protease inhibitors, and nefazodone) may increase Domperidone levels.
   5. Rare adverse effects include headache, dizziness, abdominal cramps, dry mouth, drowsiness, and allergic reactions.

Recommendations

1. Domperidone therapy to enhance lactation does not replace expressing and may not work in some cases. It should only be given if the mother has been expressing at least 6 times in 24 hours for at least 3 days. She must have had specific teaching in effective expressing techniques and positioning of the baby at the breast if possible.
   2. If the mother is still under obstetric or medical care, she should discuss the possible use of domperidone with her medical adviser(s).
   3. To ensure that adequate assistance is given to the mother, it is advisable that the mother is referred to a Lactation Consultant and or the charge nurse, or her LMC before therapy is commenced.
References


