DRUG INFORMATION
Jonathan Banks
Bob Buckham
Sharon Gardiner

Canterbury DHB
District Health Board
Te Poari Hauora o Waitaha

CLINICAL PHARMACOLOGY
Murray Barclay
Evan Begg
Chris Hutchinson
Petra Lowe
Jane Vella-Brincat
Mei Zhang

SAFETY OF DOMPERIDONE IN BREASTFEEDING

Question:
What is the safety of domperidone in breastfeeding? It is being used to increase milk production.

Answer:
Domperidone and metoclopramide have been used to increase milk supply in women who appear to be producing insufficient volumes to meet the needs of their offspring. These agents block dopamine(2)-receptors which leads to an increase in prolactin concentrations and milk production[1,2]. Domperidone offers two major advantages over metoclopramide for this indication. Firstly, domperidone has far lower propensity to cross the blood-brain barrier and is much less likely to cause extrapyramidal side effects (eg. parkinsonism, dystonic reactions). Secondly, infant exposure via breast milk is lower than for metoclopramide (see below)[1].

Safety in breastfeeding
Breastfeeding infants have been reported to ingest approximately 0.1% of the maternal domperidone dose, corrected for weights. For most drugs, an infant dose that is less than 10% of the maternal dose would be considered compatible with breastfeeding if the baby is healthy and born at term. Another method of putting the infant dose ingested via milk into perspective is to compare it with the therapeutic dose for an infant of comparable age and weight (0.9mg/kg/day). Exposure via milk equates to around 0.001% of a therapeutic infant dose[2,3]. No adverse effects were reported in seven breastfeeding infants in one study[3].

(Note: infant exposure to metoclopramide via milk is up to 5% of the maternal dose, weight-adjusted [2]).

Efficacy in increasing milk production
In lactating women, a single dose of domperidone 20mg has been reported to significantly increase prolactin concentrations compared with placebo (255 and 150 mcg/L, respectively)[4].

One small double-blind trial investigated the effects of domperidone on milk supply in women breastfeeding premature infants[3]. They randomised 20 women to receive domperidone 10mg (n=11) or placebo (n=9) three times daily for seven days. Three women in the domperidone group did not complete the study (inadequate milk records in three subjects; infant death in one subject).
The initial mean volume of milk produced per day was 112.8 mL (standard deviation [SD] 128.7) and 48.2 mL (SD 63.3), respectively. The mean milk volume from days 2 to 7 after drug administration was 162.2 mL/day (SD 127.5) in the domperidone group and 56.1 mL/day (SD 48) in the placebo group. This equates to a 44.5% increase in baseline milk with domperidone and 16.6% with placebo.
Baseline prolactin concentrations were similar in both groups (mean 12.9 and 15.6 mcg/L, respectively) but substantially greater after 5 days of domperidone (119.3 and 18.1 mcg/L, respectively).
The authors speculated that the disparity in baseline milk production may be partly due to the three sets of multiple deliveries in the domperidone group compared with one set of multiples in the placebo group.

Discussion:

The use of pharmacological agents to promote lactation has been controversial. There is currently little published evidence supporting the use of domperidone for this indication. For many mothers appropriate education, motivation and encouragement may be adequate to improve feeding. Pharmacological facilitation of lactation may be warranted in situations such as prematurity. Infant exposure to domperidone via breast milk is low and unlikely to cause harm to the suckling infant.

References:

1. Dollery C. Therapeutic Drugs (2nd ed), 1999
2. Bennett PN. Drugs and Human Lactation (2nd ed), 1996
3. Da Silva OP *et al.* CMAJ 2001; 164: 17-21.
4. Hofmeyr GR *et al.* Br J Obstet Gynnaecol 1985; 92: 141-4.

Date prepared:

June 2002