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Domperidone

Introduction:

Domperidone (Motilium™) is a drug that has, as a side effect, stimulating or increasing milk production, probably by increasing prolactin production by the pituitary gland. Prolactin is the hormone that stimulates the cells in the mother's breast to produce milk. Domperidone increases prolactin secretion indirectly, by interfering with the action of dopamine whose action is to decrease the secretion of prolactin by the pituitary gland. Domperidone is generally used for disorders of the gastrointestinal tract (gut) and has not been released in Canada for use as a stimulant for milk production. This does not mean that it cannot be prescribed for this reason, but rather that the manufacturer does not back its use for increasing milk production. However, there are several studies that show that it works to increase milk production and that it is safe. It has been used, for several years, in small infants who spit up and lose weight, but was replaced until a few years ago by cisapride (Prepulsid™) (cisapride has since been taken off the market because it can cause serious cardiac problems).

Domperidone is *not* in the same family of medication as cisapride and has never had the cardiac side effects that cisapride does. Another, related, but older medication, metoclopramide (Maxeran™), is also known to increase milk production, but it has frequent side effects which have made its use for many nursing mothers unacceptable (fatigue, irritability, depression). Domperidone has many fewer side effects because it does not enter the brain tissue in significant amounts (does not pass the blood-brain barrier).

When is it appropriate to use domperidone?

Domperidone must **never** be used as the first approach to correcting breastfeeding difficulties. Domperidone is *not* a cure for all things. It must **not be used** unless *all other factors* which may result in insufficient milk supply have been dealt with first. (See handout: *Protocol to increase intake of breastmilk by the bab*). These other factors include:

1. correcting the baby's latch so that the baby can obtain as efficiently as possible the milk which the mother has available. Correcting the latch may be all that is necessary to change a situation of "not enough milk" to one of "plenty of milk".
2. using breast compression to increase the intake of milk (handout #15 *Breast Compression*).
3. using milk expression after feedings to increase the supply.
4. correcting sucking problems, stopping the use of artificial nipples (handout #5, *Using a Lactation Aid*, and #8, *Finger Feeding*) and other stratagems.

Using domperidone for increasing milk production:

Domperidone works particularly well to increase milk production under the following circumstances:

- it has frequently been noted that a mother who is pumping milk for a sick or premature baby in hospital has a decrease in the amount she pumps around 4 or 5 weeks after the baby is born. The reasons for this decrease are likely many, but domperidone generally brings the amount of milk pumped back to where it was or even to higher levels.
- when a mother has a decrease in milk supply, often associated with the use of birth control pills (avoid oestrogen containing birth control pills while breastfeeding), or on occasion, for no obvious reason when the baby is 3 or 4 months old, domperidone will often bring the supply back to normal.

Domperidone still works, but often less dramatically when:

- the mother is pumping for a sick or premature baby but has not managed to develop a full milk supply.
- the mother is trying to develop a full milk supply while nursing an adopted baby.
- the mother is trying to wean the baby from supplements.

Side effects of domperidone:

As with all medications, side effects are possible, and many have been reported with domperidone (textbooks often list any side effect ever reported, but symptoms reported are not necessarily due to the drug a person is taking). There is no such thing as a 100% safe drug. However, our clinical experience has been that side effects in the mother are extremely uncommon, except for increasing milk supply. Some side effects which mothers we have treated have reported (very uncommonly, incidentally):

- headache which disappeared when the dose was reduced (probably the most common side effect)
- abdominal cramps
- dry mouth

The amount that gets into the milk is so tiny that side effects in the baby should not be expected. Mothers have not reported any to us, in many years of use. Certainly the amount the baby gets through the milk is a *tiny percentage* of what babies would get if being treated for spitting up.

Are there long term concerns about the use of domperidone?

The manufacturer states in its literature that *chronic* treatment with domperidone in rodents has resulted in increased numbers of breast tumours in the rodents. The literature goes on to state that this has never been documented in humans. Note that toxicity studies of medication usually require treatment with huge doses over periods of time involving most or all of the animal's lifetime. Note also that *not* breastfeeding increases the risk of breast cancer, and breast cancer risk decreases the *longer* you breastfeed.

Using Domperidone:

Generally, we start domperidone at 20 milligrammes (two 10 mg tablets) four times a day. If taking domperidone 4 times a day is inconvenient, 30 milligrammes (three 10 mg tablets) three times a day is fine. Printouts from the pharmacy often suggest taking domperidone 30 minutes before eating, but that is because of its use for digestive intolerance. You can take the domperidone about every 6 hours, when it is convenient (there is no need to wake up to keep to a 6 hour schedule—it does not make any difference). Most mothers take the domperidone for 3 to 8 weeks. Mothers who are nursing adopted babies may have to take the drug much longer.

After starting domperidone, it may take three or four days before you notice any effect, though sometimes mothers notice an effect within 24 hours. It appears to take two to three weeks to get a maximum effect, but some mothers have noted effects only after 4 or more weeks. It is reasonable to give domperidone a trial of at least 4 weeks before saying it doesn't work.

How long can I use domperidone?

When domperidone was being used for babies (and now that cisapride is off the market, it is being used again), it was common for the babies to be on the medication for several months. Since the amount of domperidone that gets into the milk is very small indeed, from the baby's point of view, there should be no issue in the mother taking it to increase milk supply for several months. Our experience is that this drug is that short-term side effects are very few and almost always very mild. Worldwide experience with domperidone over at least 2 decades suggests that long-term side effects also are rare. Some of the mothers in our clinic, breastfeeding adopted babies, have been on the medication for 18 months without any apparent side effects.

How long does it take for domperidone to work?

It depends on the situation. In a situation where the mother *had had* a good milk supply, but it decreased for some reason (e.g. going on the birth control pill), domperidone often works very rapidly to increase the milk supply. Often, within a

day or two, the mother is seeing a difference (and so does her baby). But this is not always so, and in any situation, it may take a week or more for the mother to get an effect. On occasion, we have had mothers only starting to get an increase in their milk supplies a month or more after starting to take it. Therefore, we generally recommended that the mother take the domperidone for at least 6 weeks in order to be sure whether it has worked or not.

It is our impression that domperidone works best after the first few weeks after the mother has given birth. This has not been proved, but there are theoretical reasons why it may be so. For this reason, we have often waited to prescribe it until the baby is at least 3 weeks, *mainly* because we did not want the mother to become discouraged if she did not see any rapid increase in her milk supply.

How do I know how long to take domperidone?

Usually, we ask the mother take it for two weeks and re-evaluate. There are several possibilities.

- The milk supply has increased substantially, to the point where there is no longer a consideration of using supplements, or the mother has been able to stop supplements with the baby continue to gain well on breastfeeding alone.
 - The milk supply has increased to a point that the mother feels is satisfactory. For example, she may still need to supplement, but the baby does not fuss any more at the breast and drinks contentedly.
- In these two situations, we would ask the mother to start weaning herself from the domperidone in this way.
1. Most mothers are taking 2 tablets four times a day, or 3 tablets three times a day. When you are ready to start weaning from the domperidone, drop one pill, so that now, instead of 8 pills a day, you will be taking 7, or if you were taking 9 pills a day, you will be taking 8.
 2. Wait 4 or 5 days, a week if you wish. If you see no change in your milk supply, drop another pill.
 3. Wait another 4 or 5 days. If you see no change in your milk supply, drop another pill.
 4. Continue in this way until you are down to no pills a day. If there has been no decrease in your milk supply, or if there has been a small decrease that does not affect the breastfeeding and baby's weight gain, that's just what we hope to have happened, and many mothers manage this.
- If, however, your supply diminishes significantly, return to the previous *effective* dose and do not drop any pills for a couple of weeks at least.
 - If you are keen to go off the domperidone, after a couple of weeks on the same dose, start dropping a pill a day, as in step 1 above. Some mothers, who were not able to get off the domperidone with steps 1-4 above, can do it the second or the third time.
 - You may find that you have to continue a certain dose to maintain their milk supplies. But following steps 1-4 above will get you to the lowest effective dose.

It is possible, however, that after two weeks, you are not where you want to be. In that case, you should continue using the domperidone. If you are still not where you want to be after 6 weeks of domperidone, it is time to think some more about the domperidone. If you are supplementing, and have managed to reduce the amount of supplement from 14 ounces to 10 ounces, is it really worth taking a drug in order to do this? If you feel it is, then continue with the domperidone, but try weaning the number of pills down to minimum number that maintain your milk supply, as above. If you do not feel it is worth it, try weaning down as above, and if you don't see any change once you get to no pills a day, fine. However, if you do notice a real change in the milk supply as you lower the dose, maybe the domperidone is more effective than you had thought (remember, after 6 weeks, your baby is significantly heavier, and it may be that instead of needing 14 ounces without domperidone, the baby might actually need 20 ounces to maintain good weight gain, in which case the domperidone is actually doing something).

Remember: Before using domperidone, the breastfeeding should be fixed, and as quickly as possible. This means:

- Getting the best latch possible. *This alone* may result in the baby getting enough milk.
- Using compression to continue milk intake by the baby.
- "Finish" one side before offering the other (see *protocol for increasing breastmilk intake by the baby* for an explanation on how to know the baby is getting milk)
- **Do not limit the baby to one side if the baby is not getting enough.** Switch to the other side once the baby is no longer getting milk even with the compression.
- Switch back and forth, as long as the baby is getting good amounts of milk.
- See the *protocol for increasing breastmilk intake by the baby*.