

Broader options for galactagogue therapy- Consideration of H2 receptor blockers

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INTRODUCTION: Low milk supply is a common reason to discontinue breastfeeding.¹ Improved latch and frequent, thorough draining of the breasts does not always result in a full supply for many women. Common galactagogue therapies focus on increasing prolactin and current therapies are of limited benefit. Herbal galactagogues have varying ingredients, potency, availability, and tolerability for patients leading to concerns over their safety and efficacy. The pharmaceutical galactagogues most well studied include Domperidone and Metoclopramide, which increase prolactin through dopamine receptor blockade. Domperidone has been reported to cause significant withdrawal side effects², and Metoclopramide has the potential to cause depression³, a particularly significant risk in postpartum women. Due to the concerns regarding these common treatments for low milk supply, we are interested in examining other galactagogue options for nursing mothers.

Histamine H2-receptor blockade is known to increase prolactin levels, specifically with the drug cimetidine, through three separate mechanisms⁴. This alternative pathways does not block dopamine receptors and is not known to cause depression or withdrawal symptoms. H2-receptor blocker medications have been used safely in pregnant women and infants for the treatment of acid reflux disorders. Cimetidine levels in breast milk are about the same as maternal serum levels and the amount received by the infant has been calculated to be a tenth of the usual neonatal dose⁵. We conducted an investigation of the use of the off-label use of 200-300mg cimetidine 4 times daily in individuals with marginal or low milk supply, after first correcting the latch and improving the removal of milk by pump and/or baby and considering supplementation at the breast. Subjective reports from initial patients indicated an improvement in supply of 20-30% and the medication was well tolerated. We attempted to further quantify the effectiveness of H2-receptor blockers as galactagogue therapy, in comparison to herbal supplement use.

OBJECTIVES:

1. To learn if cimetidine has comparable or better effectiveness than currently recommended herbal and pharmaceutical galactagogues.
2. To determine if cimetidine is well tolerated or has any significant side effects in breastfeeding individuals.
3. To determine if further study of H2-receptor blockers as adjunctive therapy for increasing milk supply is warranted.

METHODS: Patients presenting with a complaint of low milk supply were shown how to latch and pump more effectively as an initial measure and were educated that galactagogue therapy is ineffective without frequent effective draining of the breasts. Information was given on the use of fenugreek capsules 610mg and blessed thistle capsules 390mg and the available options of domperidone and metoclopramide as well as their drawbacks.⁶ Cimetidine 200mg 4 times daily was suggested as an alternative to herbals or more conventional galactagogues, and the mothers were encouraged to try the herbals or cimetidine if effective latch and pumping did not improve supply, and to follow up if supply remained low.

An electronic survey was sent to all individuals who had been seen for breastfeeding concerns in our specialty clinic over the past year. Surveys were returned by 31 of 239 individuals (response rate of 13.0%), of whom only 3 had tried cimetidine.

RESULTS:

Respondents generally improved their supply with latch and pumping improvements. Of 29 individuals assisted with latch and positioning, 23 reported moderate to large increases in supply. Of 27 assisted with pumping and flange fit, 21 increased their supply at least moderately. Of the 31 respondents, 21 were informed of herbal supplements and of those 14 chose to use them; 2 who were not informed also used herbal supplements. Of these 16 individuals, 10 used fenugreek, 1 used blessed thistle and 3 used other products. Ten of the 16 felt that herbal supplements increased their supply moderately or a lot. Of interest, Hispanic individuals were more likely to try herbal supplementation, specifically fenugreek. Side effects reported included bad body odor, headache, lowered supply and gassiness in baby.

Perceived changes in milk supply after intervention [Likert scale 1= no increase, 2= a little increase, 3= moderate increase, 4= a lot of increase, 5= reached a full supply]					
	Obs	Mean	Std Dev	Min	Max
Change after Latch Advice	29	3.37931	1.34732	1	5
Change after Pump/Flange Advice	29	3.241379	1.214648	1	5
Change after Herbal Use	16	2.8125	1.276388	1	5
Change after Cimetidine Use	3	2.666667	1.527525	1	4

Nine of the 31 individuals were informed of the use of off-label use of cimetidine as a possible galactagogue. Of the 9, only 3 individuals used cimetidine as a galactagogue. Two reported a moderate or large increase in milk supply, and 1 reported that none of the interventions she employed, including improved latching and pumping, were successful in increasing her supply. None of the 3 reported any side effects from taking cimetidine.

Respondent	Dose	Duration	Result	Onset of action
A	1000-1600mg/d	1-2 weeks	No increase	No increase
B	200-400mg/d	1-2 weeks	Moderate increase	Less than 1 week
C	200-400mg/d	1-2 weeks	Large increase	3-4 weeks

CONCLUSIONS:

Improved latch and pumping techniques were the most successful interventions to increase breastmilk supply. Herbals, specifically fenugreek, did subjectively increase supply in 62.5% of respondents, which was also true of cimetidine use, though sample size is quite small. Additional studies should be conducted to improve our understanding. Cimetidine has a better safety profile than either domperidone or metoclopramide, and better tolerability than herbal galactagogues. The use of H2-receptor blockers as adjunctive therapy for the treatment of low milk supply deserves further study.

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