

Journal of Human Lactation

<http://jhl.sagepub.com/>

Raynaud's Phenomenon of the Nipple Associated with Labetalol Use

Naomi McGuinness and Vicky Cording

J Hum Lact 2013 29: 17 originally published online 4 December 2012

DOI: 10.1177/0890334412467509

The online version of this article can be found at:

<http://jhl.sagepub.com/content/29/1/17>

Published by:



<http://www.sagepublications.com>

Additional services and information for *Journal of Human Lactation* can be found at:

Email Alerts: <http://jhl.sagepub.com/cgi/alerts>

Subscriptions: <http://jhl.sagepub.com/subscriptions>

Reprints: <http://www.sagepub.com/journalsReprints.nav>

Permissions: <http://www.sagepub.com/journalsPermissions.nav>

>> [Version of Record](#) - Dec 31, 2012

[OnlineFirst Version of Record](#) - Dec 4, 2012

[What is This?](#)

Raynaud's Phenomenon of the Nipple Associated with Labetalol Use

Journal of Human Lactation
29(1) 17–19
© The Author(s) 2013
Reprints and permission: <http://www.sagepub.com/journalsPermissions.nav>
DOI: 10.1177/0890334412467509
<http://jhl.sagepub.com>


Naomi McGuinness, MBChB, and Vicky Cording, MRCOG

Abstract

Raynaud's phenomenon of the nipple is an unusual cause of severe nipple pain. Precipitants for Raynaud's phenomenon of the nipple are known to be cold temperatures, caffeine, and emotional stress. Nipple pain is quoted as the most common cause of cessation of breastfeeding. It is important that lactation consultants and other health care professionals are aware of Raynaud's phenomenon of the nipple and the treatment options available.

This is a case of a 37-year-old woman, Gravida 2, Para 1, who was first seen in the antenatal clinic at 34 weeks gestation. A diagnosis of Raynaud's phenomenon of the nipple was made after she began taking labetalol for pregnancy-induced hypertension. The phenomenon had occurred in both of her previous pregnancies on commencing labetalol and resolved postnatally on cessation of the drug.

We aim to raise awareness of both the condition itself and the potential role of labetalol in the development of Raynaud's phenomenon of the nipple.

Keywords

labetalol, nipple pain, Raynaud's phenomenon

Introduction

Raynaud's phenomenon was originally described in 1862 by Maurice Raynaud.¹ Its aetiology is thought to be vasospasm of arterioles causing intermittent ischemia of the extremities, most commonly the fingers. There is a characteristic triphasic color change, which may be visualized as a dramatic change in skin color from normal to white, as vasoconstriction results in pallor, secondary to ischemia. This change is followed by blue as a result of cyanosis, secondary to deoxygenated venous blood, and finally to a red/purple, representing erythema as a result of reflex vasodilation.²

Raynaud's phenomenon has been known to affect other extremities including toes, earlobes, and the nose.^{1,2} In 1970, Gunther first described nipple vasospasm,³ and this description was later expanded by Coates, who described a link between nipple vasospasm and Raynaud's phenomenon.⁴ Several other case reports have described Raynaud's phenomenon of the nipples, particularly in association with painful breastfeeding.^{1,2,4}

Raynaud's phenomenon is known to have a female predominance with a ratio of 9:1, and its prevalence in childbearing women is approximately 20%.^{1,4} Raynaud's phenomenon of the nipples may cause severe nipple pain, and since nipple pain is a common cause of cessation of breastfeeding, it is important that health care professionals are aware of its existence and treatment options available.

Several case reports have described Raynaud's phenomenon affecting the nipples, and one case report even

postulated an association with breast surgery.^{1,2} Precipitants for Raynaud's phenomenon are known to be cold temperatures, caffeine, and emotional stress.^{5,6} We believe that this is the first time an association has been described in the literature between Raynaud's phenomenon of the nipple and the β blocker labetalol.

Case Report

This is a case of a 37-year-old woman, Gravida 2, Para 1, who was first seen in antenatal clinic at 34 weeks gestation, when a diagnosis of Raynaud's phenomenon of the nipple was made. She had no previous formal diagnosis of Raynaud's. She had no past medical conditions and was taking no regular medications. She had an average caffeine intake and was a nonsmoker. When questioned, she admitted to a history of her toes turning white and becoming painful during winter, and this condition was alleviated by wearing

Date submitted: April 9, 2012; Date accepted: October 15, 2012.

Department of Obstetrics and Gynaecology, St Helens and Knowsley Teaching Hospital, Prescott, UK

Corresponding Author:

Naomi McGuinness, MBChB, Department of Obstetrics and Gynaecology, St Helens and Knowsley Teaching Hospital, Whiston Hospital, Warrington Road, Prescott, L35 5DR, UK
Email: naomi.mcg@doctors.org.uk

thick socks. On very cold days, her nipples could also be painful.

In her first pregnancy in 2007, she had a vaginal delivery after induction of labor with prostaglandins and syntocinon because of pregnancy-induced hypertension. She was treated with labetalol 100 mg twice daily as an antihypertensive from 36 weeks gestation. Her delivery was complicated by a third-degree tear and retained products of conception, which led to a request for an elective cesarean section with her next pregnancy. She stated symptoms of nipple soreness developed soon after starting labetalol in her first pregnancy; however, this condition was not related to cold weather, as her pregnancy was during the summer months and she was not exposed to air conditioning. The nipples would become cold and be excruciatingly painful. She stated these symptoms persisted while she was on the labetalol, but the intensity of the pain gradually eased. She successfully breastfed for 5 weeks, although found breastfeeding also exacerbated her nipple pain until she stopped the labetalol postnatally.

In her second pregnancy, she had no antenatal problems and no nipple pain until 34 weeks gestation, when she had asymptomatic elevated blood pressure and commenced taking 100 mg of labetalol twice daily. She was seen a week later, when Raynaud's phenomenon of the nipple was considered, as she was complaining of nipple pain associated with color change. She mentioned the same symptoms had occurred when she had started taking labetalol in her previous pregnancy. Symptoms persisted antenatally, and she required reassurance at several antenatal visits to continue with the labetalol, as she found the nipple pain difficult to manage. She delivered by cesarean section with an uncomplicated intraoperative and postoperative course. She was successfully discharged on day 3. While an inpatient, she breastfed for 2 days then switched to artificial feeding. Nipple symptoms persisted postnatally but were mild until she was weaned off labetalol.

Discussion

This is the first case report to describe an apparent association between labetalol and Raynaud's phenomenon of the nipple. Raynaud's of the nipple was first described in 1970, and awareness of the condition is still poor. The exact etiology of Raynaud's is still unknown; there is thought to be an exaggeration of vasomotor responses resulting in intermittent ischemia.⁴ Precipitants of the condition are known to be stress, caffeine, cold temperatures, and drugs such as ergotamines.^{6,7}

Labetalol is a β -adrenoceptor blocker that acts on the heart, bronchi, liver, pancreas, and peripheral vascular system. β Blockers are known to cause peripheral vasoconstriction and have been associated with intrauterine growth restriction, however, labetalol is a combined α and β blocker and is less likely than other β blockers to decrease uteroplacental blood flow. Reports on the efficacy and safety of labetalol are favorable, and so it has become increasingly popular for use during pregnancy.⁸ β Blockers are relatively

contraindicated in peripheral vascular disease because of vasoconstriction.⁹ It is therefore not surprising that in this patient, her Raynaud's phenomenon of the nipples appears to have been precipitated by labetalol.

Labetalol is now a first-line drug in the management of pregnancy-induced hypertension in the United Kingdom,¹⁰ and thought should be given to its side effects, particularly if a diagnosis of Raynaud's is being considered. Hypertension in pregnancy should always be regarded as an important condition, as its sequelae of preeclampsia and eclampsia can have grave consequences for both mother and baby. It is still one of the leading causes of direct maternal death and should be treated promptly and effectively.

Obstetricians need to discuss with mothers the implications of untreated hypertension and its potential risks and balance this condition with the risks and benefits of treatment with antihypertensives to allow patients to make an informed decision.^{8,10} Reassurance is often all that is needed for patients to tolerate side effects.

Alternative antihypertensives such as nifedipine may need to be considered after discussion with the mother if blood pressure is not controlled or side effects not tolerated. Nifedipine is a calcium-channel blocker; it inhibits the calcium channels and reduces calcium entry into cells, thereby reducing smooth muscle contraction and causing vasodilation and thus reducing blood pressure.⁹ Recently there has been evidence to suggest the use of nifedipine as a treatment of painful vasospasm in Raynaud's phenomenon because of its vasodilatory effects.⁶

Other common antihypertensives used in pregnancy are methyldopa and hydralazine, which both reduce blood pressure via vasodilation. Depending on the clinician's experience and preference, these medications could be considered as alternatives.⁸

Most of the available literature describing Raynaud's phenomenon of the nipples comments on nipple pain in the postnatal period.^{1,2,4-6} Whether these women had symptoms antenatally or not is unclear, as this information is not something that is commonly elicited in an antenatal history. When a woman breastfeeds, there is a lot of focus on breast and nipple pain, which may contribute to a higher percentage volunteering symptoms. It is well known that Raynaud's is precipitated by cold, so again, this condition will increase postnatally because during breastfeeding, the nipples are more commonly exposed.⁴ The most common cause of nipple pain in breastfeeding mothers is poor latch and positioning of the baby,^{1,7} something that is actively looked for by midwives and infant-feeding teams. However, when position is not identified as the cause, many mothers are inappropriately treated for mastitis or *Candida* infection.⁷

More awareness of Raynaud's phenomenon of the nipple is required among obstetricians, lactation consultants, and other health care professionals. If a patient complains of nipple pain, a few carefully considered questions can assist with diagnosis: is there a personal or family history of Raynaud's?

Are both nipples affected? Are symptoms precipitated by cold? Do the nipples change color? A “yes” answer to any of these questions should raise the suspicion of Raynaud’s phenomenon, and the nipples should be inspected for the triphasic color change, if possible.⁵ Advice on avoidance of precipitants such as cold should be given. If the patient is antenatal, the avoidance of ergometrine at delivery and its substitution with oxytocin should be considered, as ergometrine can cause vasoconstriction. Often reassurance and advice about warm compresses is all that is required, but health professionals should be aware of the role of nifedipine.^{4,5} Ultimately, the aim is for mothers to continue to breastfeed until they choose to stop, not because of an unrecognized syndrome.

Recommendations

The aim of this case report is to increase awareness of Raynaud’s phenomenon of the nipple and to report on a newly observed phenomenon. Ultimately, the aim of treatment is control of blood pressure, which requires educating patients about risks and benefits of medication. In the United Kingdom, first-line treatment of hypertension in pregnancy is with labetalol and the majority of patients are well controlled and free from side effects, but this case study reports on a potential and previously undocumented side effect of this commonly prescribed medication.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

References

1. Lawlor-Smith L, Lawor-Smith C. Vasospasm of the nipple—a manifestation of Raynaud’s phenomenon: case reports. *BMJ*. 1997;314(7081):644-645.
2. Anderson JE, Held N, Wright K. Raynaud phenomenon of the nipple: a treatable cause of painful breastfeeding. *Pediatrics*. 2004;113(4):360-364.
3. Gunther M. *Infant Feeding*. London, UK: Methuen; 1970.
4. O’Sullivan S, Keith MP. Raynaud phenomenon of the nipple. A rare finding in rheumatology clinic. *J Clin Rheumatol*. 2011;17(7):371-372.
5. Page SM, McKenna DS. Vasospasm of the nipple presenting as painful lactation. *Obstet Gynecol*. 2006;108:806-808.
6. Hardwick JC, McMurtrie F, Melrose EB. Raynaud’s syndrome of the nipple in pregnancy. *Eur J Obstet Gynecol Reprod Biol*. 2002;102(2):217-218.
7. Morino C, Winn SM. Raynaud’s phenomenon of the nipples: an elusive diagnosis. *J Hum Lact*. 2007;23(2):191-193.
8. Grady K, Howell C, Cox C. *Managing Obstetric Emergencies and Trauma*. 2nd ed. London, UK: RCOG Press; 2007.
9. Winstanley P, Walley T. *Medical Pharmacology*. 2nd ed. Edinburgh, UK: Churchill Livingstone; 2002.
10. NICE clinical guidance 107. Hypertension in pregnancy. 2010. <http://www.nice.org.uk/nicemedia/live/13098/50418/50418.pdf>