‘Minor maladies’ of pregnancy

A pregnant obstetrician’s perspective

Natalie Kiesey-Calding
FRANZCOG

I was asked to write this article as I am currently 26 weeks pregnant, have a 20-month-old daughter and am a full-time staff specialist obstetrician and gynaecologist at the Cairns Base Hospital – yes, ‘busy’ I believe would cover the situation! It also puts me in a unique position to experience pregnancy on a personal level. Whilst I have been and am currently well, it is the ‘minor maladies’ of pregnancy that I would like to focus on in this article, from my new perspective.

These ‘minor maladies’ (and who came up with this term in the first place?!) are annoying but not life-threatening complaints that represent the manifestations of the physiological changes in pregnancy. At the severe end of the spectrum, they can be immensely challenging to manage, with women wanting early delivery because of the morbidity they are experiencing secondary to these changes. So, perhaps not so ‘minor’ after all…

This is by no means a comprehensive survey of all the physiologic changes of pregnancy but more an overview with a bias towards complaints that seem to be common in the antenatal clinic and that over the years, have been variously difficult to deal with. They are listed in no particular order.

Hyperemesis

Hyperemesis is not a huge issue for me, but unfortunately for some women, completely debilitating. It is also quite common, with some degree of nausea +/- vomiting in 50 to 90 per cent of all pregnancies. Symptoms usually settle by mid-trimester but continue into the third trimester in 15 to 20 per cent, and until delivery in five per cent.

Some degree of nausea with or without vomiting occurs in 50 to 90 per cent of all pregnancies. The mean onset of symptoms is at five to six weeks of gestation, peaking at nine weeks and usually abating by 16 to 18 weeks of gestation; however, symptoms continue until the third trimester in 15 to 20 per cent of gravida and until delivery in five per cent.[1, 2]

Hyperemesis gravidarum, seen as the worst end of the spectrum, is a subjective diagnosis but said to be if loss of more than five per cent of pre-pregnancy weight, and ketonuria.[3]

Treatment can be quite difficult and especially after the thalidomide scare some years ago, some women will not take even paracetamol in pregnancy. Prior to easy access to parenteral fluids and nutrition, there was even a risk of maternal mortality associated with hyperemesis! Now thankfully, this is of course virtually non-existent but the maternal morbidity associated with constant nausea +/- vomiting can be very unpleasant.

Treatments consist of both non-pharmacologic and pharmacologic interventions. Generally speaking, management is based on whatever works for the individual, with the introduction of treatments in a step-wise fashion, starting with those of least toxicity. Just avoiding environmental triggers, like smells, motion, etc, may help. Trying to manipulate mealtimes and contents to minimise gastric upset (eg small meals often of low-fat content and non-spicy foods) can be effective. If food is not possible, the fluid replacement by mouth is best if cold, clear and carbonated or sour. Some success with aromatic infusions (eg lemon or mint) have been said to be helpful. Acupuncture/acupressure involving the ‘P6’ point has some strong advocates but the evidence supporting this as an effective therapy has been less exciting.[4, 5]

Ginger has a stronger evidence base to decrease nausea, if not vomiting, at the dose of 1.5 mg divided over 24 hours. It has been shown to be as effective as Vitamin B6 in decreasing the nausea and vomiting of pregnancy. Other therapies, including hypnosis, have shown some benefit in alleviating the concomitant anxiety and thus the nausea and vomiting.[6,7]

Drug therapy starts with Vitamin B6 (pyridoxine). Systematic reviews of randomised and/or controlled studies have shown that pyridoxine (vitamin B6) (ten to 25 mg orally three or four times per day) improves mild to moderate nausea but does not significantly reduce vomiting.[8,6,7] Thus, it is most useful for women with morning sickness rather than hyperemesis. Likewise, women taking a periconceptual multivitamin reported less nausea and vomiting.[6]

Anti-histamines are the next drug of choice. The efficacy of antihistamines (H1 antagonists) was demonstrated in a pooled analysis of controlled trials that showed a significant reduction in pregnancy related nausea and vomiting with use of these agents (RR 0.34, 95 per cent CI 0.27-0.43).[9] The safety of antihistamines (H1 antagonists) was shown in a meta-analysis that examined the association between antihistamine use and major malformations [10]. This review of 24 controlled studies, including over 200,000 first trimester exposures, found that H1-receptor blockers decreased the risk of malformations (OR 0.76, 95 per cent CI 0.60-0.94).

Metoclopromide and phenothiazines (prochlorperazine, chlorpromazine) would be the next level of drug, followed by ondansetron. Phenothiazines are the best studied for safety from the teratogenic point of view and their efficacy.[9] Dopamine antagonists (metoclopromide, phenothiazines and droperidol) have been shown to not have teratogenic effects.[9, 11]

As well as these interventions, IV replacement therapy is important, along with the use of antacids/H2- blockers (ranitidine) as necessary (see section on reflux for specific information for these medications in pregnancy). Steroids should be used as a last resort, with the evidence supporting their use being patchy. There is also a small risk of cleft palate if they are used under ten weeks[12, 13, 14, 15, 16] and prolonged use seems to have an association with premature rupture of membranes.[17]

Interventions for hyperemesis

Non-pharmacologic

- avoidance of triggers, eg smells;
- avoid supplements with iron until symptoms resolve;
- eat before feeling desperate for food;
- frequent high carbohydrate, low fat, small meals;
- fluids should be cold, clear and carbonated or sour;
- acupuncture/acupressure;
- ginger; and
- hypnosis.

Pharmacologic

- **Vitamin B6 (pyridoxine)**
  - 10-25 mg orally three to four times per day
- **Anti-histamines (H1 blockers)**
  - Phenergan (promethazine) 12.5 to 25 mg every four hours orally, intramuscularly or per rectum
- **Anti-emetics**
  - Metoclopramide five to ten mg four to six hourly orally/IMI/IVI
  - Prochlorperazine five to ten mg three to four hourly IMI/orally or 25 mg bd PR
  - Ondansetron eight mg bd IMI/orally
- **Steroids**
  - Methylprednisolone 16 mg orally or intravenously every eight hours for three days. The drug can be stopped abruptly if there is no response and tapered over two weeks in women who do have relief of symptoms.

Itch

Pruritus, without any pathologic process, is reported to affect up to 20 per cent of pregnant woman.[18] Common pruritic locations are the scalp, anus, vulva and, during the third trimester, the abdominal skin.[18] Pregnancy induced pruritus may be related to dermographism or urticaria, which are common in the last half of pregnancy.[19] Treatment with oatmeal baths, topical steroids, antihistamines, and/or ultraviolet light (UVB) helps to relieve symptoms.[18] This is also a symptom that can represent cholestasis of pregnancy or specific dermatological conditions of pregnancy (eg PUPPS). These, of course, are not part of the physiological spectrum of pregnancy.

'Women taking a periconceptual multivitamin reported less nausea and vomiting'

Constipation

It sounds so benign, doesn't it?! But difficulty moving bowels can make life a complete trial, as well as exacerbating any prolapse that is present. It is probably due to the increase in progesterone that decreases gut motility. Interestingly, one study showed that roughly 55 per cent had no change, 34 per cent had an increase and 11 per cent had a decrease in bowel frequency in pregnancy.[20] Other studies have reported approximately one third of pregnant women suffer from constipation.[21]

Treatment is to hydrate, hydrate, hydrate and to use Metamucil as a stool-bulking agent. Dietary advice regarding fibre is also helpful. Only 1.5 per cent should need to use a laxative and in this group, a stimulant/motility agent such as lactulose, sorbital and glycerine should be used.[22]

Stretch marks

Again, these can be worse in some, rather than others, and more likely with a multiple gestation. Many expensive preparations exist to try and fight this particular cosmetic problem but as the pathogenesis is that of pulling apart the collagen and elastin fibrils in the skin, there is no guaranteed preventative or cure.[23] This is probably one of the most common questions asked in ante-natal clinic, usually by the patient with a full face of make-up at every visit!

Spider veins

Sometimes very disfiguring, dilated veins can rear their ugly head in an otherwise normal pregnancy. When severe, legs can appear almost blue or black, and of course, regression post-pregnancy is minimal. Again, it's all to do with pregnancy hormones, and is worse in some, rather than others.

Varicosities

These can be particularly disfiguring and can be present in all lower limbs, as well as the vulva. There is a genetic predisposition but the increased blood volume and increased venous pressure in the lower extremities secondary to the enlarging uterus is the mechanism by which they occur.

Supportive therapy (ie TEDS, not standing for long periods and leg elevation) is helpful but will not fix the problem. If vulval varicosities are particularly prominent, there is no real treatment, except delivery, for these. Whilst varicosities will improve post delivery, they may not resolve entirely.[18]

Fatigue

A great phrase I once heard a feisty Irish lady use to describe this particular problem was 'I was so tired I could have slept on a stick'. It is a great weariness, where even moving is sometimes just too hard. Of course, this is completely impractical with a co-existent small child and work commitments. The other problem is that it is most common in the first trimester when there is no bump to point to, vindicating your legitimate pregnancy symptom. Sigh! Overall, I think this is the toughest problem to overcome for women, with sympathy at this stage being in very short supply. No helpful hints here girls, just make sure your man is up to speed on foot and back massage and can manage dinner most nights of the week. The bad news? It hits you again in the third trimester! Progesterone is again thought to be to blame.

Cravings

This is generally said to be because of the rapidly changing hormonal mileu and varies greatly between individual women.

'Often reassurance, education and relatively simple lifestyle measures... are all that will be needed to help ease discomfort'

Heartburn

Heartburn occurs in 30 to 50 per cent of pregnancies, with the incidence approaching 80 per cent in some patient groups.[24] So, it's pretty common!

Treatment is all about improving acid clearance from the oesophagus; elevating the head of the bed, avoiding spicy foods and having small frequent meals at least three hours before bedtime. Antacids are the initial drug therapy and have been shown to be safe from the teratogenic point of view.[25] However, antacids can interfere with iron absorption, and taking sodium bicarbonate can cause a metabolic alkalosis and fluid overload in mother and baby.[26]

H2 receptor antagonists, which we have had the most experience with, include ranitidine and cimetidine, both of which appear to be safe in pregnancy.[27, 28, 29, 30] These medications are effective at reducing symptoms, with a dose of ranitidine 150 mg twice a day.

Proton pump inhibitors we have had less experience with, but they are probably safe in pregnancy.[31, 32]

Fainting/Orthostatic hypotension

Light-headedness is likely associated with the normal pregnancy related fall in vascular resistance. It typically occurs when the woman is erect and resolves by having her lie on her left side. Light-headedness is of concern if it occurs in association with an abnormal heart rate/rhythm or signs suggestive of a seizure. It is more prominent in tall women, with pooling of blood in the extremities with prolonged standing.

On a personal note, this has been my biggest challenge in both my pregnancies – surgery became impossible reasonably early due to my inability to remain vertical.

Back pain

Low back pain and other musculoskeletal discomforts typically occur after the first trimester but may occur early in pregnancy. They are due to changes in the woman's centre of gravity with advancing gestation and the effect of pregnancy hormones.

Symphysis pubis dysfunction

The fibrous joint at the front of the pelvis can cause no end of problems for the pregnant woman. This joint relaxes under the influence of the (aptly named) hormone relaxin. The increased mobility of this joint can give pain that varies in its manifestations. In its worst form, it can be completely debilitating, requiring crutches. This seems to have become a more common complaint in recent years and usually in the higher socio-economic brackets, although this is purely anecdotal.

The mainstay of treatment is conservative – bed rest, girdles, crutches or a walker, and a careful mobility program. Acupuncture added to this has significantly decreased pain scores, as did stabilising exercises.[33, 34] Opiates and intrasymphyseal injections with various medications have also been tried.[35] Pain resolves in the majority of patients within a month.[36] However, recovery from pelvic girdle syndrome can be prolonged (over two years). Symptoms may recur in subsequent pregnancies, but this does not preclude vaginal birth.[35]

Urinary tract

We've all heard of the 'pregnant bladder' – quite another thing to own one! Up to 80 per cent of pregnant women will experience frequency, which gets worse closer to term.[37] Nocturia can also be a big problem, as pregnant women excrete larger amounts of total solute and sodium during the night than their non-pregnant sisters.[38] Urinary tract infections will also rear their ugly head, often for the first time, in pregnancy. In a RANZCOG College statement (November 2004), a mid-stream urine to screen for asymptomatic pyuria is recommended for all pregnant women. Treatment is the same as for a non-pregnant woman.

In closing, this is a brief gallop through the many complaints of pregnancy that can cause a pregnant woman to present to their care provider. Most are not serious but can make life pretty miserable and should be discussed in a supportive fashion with the woman. Often, reassurance, education and relatively simple lifestyle measures, rather than any drug therapies, are all that will be needed to help ease discomfort. Sympathy too, can go a long way. While we are all 'superwomen', the going can get a bit tough at times!

References

1. Association of professors of gynecology and obstetrics. *Nausea and vomiting of pregnancy*. Association of professors of gynecology and obstetrics, Washington, DC; 2001
2. Tierson F D, Olsen C L, Hook E B. Nausea and vomiting of pregnancy and association with pregnancy outcome. *Am J Obstet Gynecol* 1986; Nov; 155(5): 1017-22
3. Goodwin T M. Hyperemesis gravidarum. *Clin Obstet Gynecol* 1998; Sep; 41(3): 597-605.
4. Roscoe J A, Matteson S E. Acupressure and acustimulation bands for control of nausea: A brief review. *Am J obstet Gynecol* 2002; May; 186(5 Suppl Understanding): S244-7.
5. Rowen et al. A randomized controlled trial of nerve stimulation for relief of nausea and vomiting in pregnancy. *Obstet Gynecol* 2003; Jul; 102(1): 129-35.
6. Niebyl J R, Goodwin T M. Overview of nausea and vomiting of pregnancy with an emphasis on vitamins and ginger. *Am J Obstet Gynecol* 2002; May; 186(5 Suppl Understanding): S253-5.
7. Koren G, Maltepe C. Pre-emptive therapy for severe nausea and vomiting of pregnancy and hyperemesis gravidarum. *J Obstet Gynaecol* 2004; Aug; 24(5): 530-3.

8. Jewell D, Young G. Interventions for nausea and vomiting in early pregnancy. *Cochrane Database Syst Rev* 2003; (4): CD000145.
9. Magee L A, Mazzotta P, Koren G. Evidence-based view of safety and effectiveness of pharmacologic therapy for nausea and vomiting of pregnancy (NVP). *Am J Obstet Gynecol* 2002; May; 186(5 Suppl Understanding): S256-61.
10. Seto A, Elinarson T, Koren G. Pregnancy outcome following first trimester exposure to antihistamines: meta-analysis. *Am J Perinatol* 1997; Mar; 14(3): 119-24.
11. Kallen B. Hyperemesis gravidarum during pregnancy and delivery: A registry study. In: *Nausea and Vomiting of Pregnancy: State of the Art* 2000, Koren G, Bishai R (Eds), Motherisk, Toronto 2000; p. 36.
12. Shepard T H et al. Update on new developments in the study of human teratogens. *Teratology* 2002; Apr; 65(4): 153-61.
13. Carmichael S L, Shaw GM. Maternal corticosteroid use and risk of selected congenital anomalies. *Am J Med Genet* 1999; Sep 17; 86(3): 242-4.
14. Park-Wyllie L, Mazzotta P et al. Birth defects after maternal exposure to corticosteroids: prospective cohort study and meta-analysis of epidemiological studies. *Teratology* 2000; Dec; 62(6): 385-92.
15. Rodriguez-Pinilla E, Martinez-Frias M L. Corticosteroids during pregnancy and oral clefts: a case-control study. *Teratology* 1998; Jul; 58(1): 2-5.
16. Pradat P, Robert-Gnansia E et al. First trimester exposure to corticosteroids and oral clefts. *Birth Defects Res A Clin Mol Teratol* 2003; Dec; 67(12): 968-70.
17. Cowchock S. Prevention of fetal death in the antiphospholipid antibody syndrome. *Lupus* 1996; Oct; 5(5): 467-72.
18. Wong R C. Physiologic skin changes in pregnancy. In: *Skin changes and diseases in pregnancy*, Harahap M, Wallach RC (Eds), Marcel Dekker, Inc, New York 1996; p37.
19. Winton G B, Lewis C W. Dermatoses of pregnancy. *J Am Acad Dermatol* 1982; 6: 977.
20. Levy N, Lemberg E, Sharf M. Bowel habit in pregnancy. *Digestion* 1971; 4: 216.
21. Anderson A S. Constipation during pregnancy; incidence and methods used in its treatment in a group of Cambrigeshire Women. *Health Visitor* 1984; 12: 363.
22. Wald A, Van Thiel D H et al. Effect of pregnancy on gastrointestinal transit. *Dig Dis Sci* 1982; Nov; 27(11): 1015-8.
23. Wong R C, Ellis C N. Physiologic skin changes in pregnancy. *J Am Acad Dermatol* 1984; Jun; 10(6): 929-40.
24. Bassey O O. Pregnancy heartburn in Nigerians and Caucasians with theories about aetiology based on manometric recordings from the oesophagus and stomach. *Br J Obstet Gynaecol* 1977; Jun; 84(6): 439-43.
25. Hodgkinson R, Glassenberg R et al. Comparison of cimetidine (Tagamet) with antacid for safety and effectiveness in reducing gastric acidity before elective caesarean section. *Anesthesiology* 1983; Aug; 59(2): 86-90.
26. Witter F R, King T M, Blake D A. The effects of chronic gastrointestinal medication on the fetus and neonate. *Obstet Gynecol* 1981; Nov; 58(5 Suppl): 79S-84S.
27. Parker S, Schade R R et al. Prenatal and neonatal exposure of male rat pups to cimetidine but not ranitidine adversely affects subsequent adult sexual functioning. *Gastroenterology* 1984; Apr; 86(4): 675-80.
28. Ciprani S, Conti R, Vella G. Ranitidine in pregnancy; three case reports. *Clinical Europea* 1983; 22: 1.
29. Ching M S, Morgan D J et al. Placental transfer of omeprazole in maternal and fetal sheep. *Dev Pharmacol Ther* 1986; 9(5): 323-31.
30. Larson J D, Patatanian E et al. Double-blind placebo-controlled study of ranitidine for gastroesophageal reflux symptoms during pregnancy. *Obstet Gynecol* 1997; Jul; 90(1): 83-7.
31. Katz P O, Castell D O. Gastroesophageal reflux disease during pregnancy. *Gastroenterol Clin North Am* 1998; Mar; 27(1): 153-67.
32. Ruigomez A, Garcia Rodriguez L A et al. Use of cimetidine, omeprazole and ranitidine in pregnant women and pregnancy. *Am J Epidemiol* 1999; Sep 1; 150(5): 476-81.
33. Richardson C A, Snigders C J et al. The relation between the transversus abdominis muscles sacroiliac joint mechanics, and low back pain. *Spine* 2002; Feb 15; 27(4): 399-405.
34. Richardson C A, Jull G A. Muscle control-pain control. What exercises would you prescribe? *Man Ther* 2000; Nov; 1(1): 2-10.
35. Snow R E, Neubert A G. Peripartum pubic symphysis separation: A case series and review of the literature. *Obstet Gynecol Surv* 1997; Jul; 52(7): 438-43.
36. Albert H B, Godskesen M, Westergaard J G. Incidence of four syndromes of pregnancy-related pelvic joint pain. *Spine* 2002; Dec 15; 27(24): 2831-4.
37. Francis W J A. Disturbances of bladder function in relation to pregnancy. *J Obstet Gynaecol Br Emp* 1960; 43: 749.
38. Parboosingh J, Doig A. Renal nyctohemeral excretory patterns of water and solutes in normal human pregnancy. *Am J obstet Gynecol* 1973; 116: 609.

General reference to the UpToDate database 2006.

"Hands On" Operative Laparoscopy Workshops for Gynaecologists

Presented by:

Queensland Institute of Minimally Invasive Surgery

QIMIS invites gynaecologists who wish to expand their spectrum of laparoscopic procedures to attend this training workshop. The multimodal training program encourages participants to take the next step to independently performing more advanced procedures.

2006/2007 workshop dates

13th to 16th November 2006 • 25th to 29th June 2007 • 15th to 19th October 2007

Courses are held jointly in Brisbane at:

QH Skills Development Centre • Herston Medical Research Centre • Greenslopes Private Hospital

• interactive lectures • skills lab • animal lab • live operating • complication sessions • human error sessions

These programs have been planned according to the guidelines of RANZCOG & AGES.
CME creditpoints will be accredited upon completion of the workshops.

Further details are available from:

A/Prof Andreas Obermair PO Box 82 Herston 4029 Phone 0411 800 029 www.qimis.com
Dr Anusch Yazdani PO Box 8199 Woolloongabba 4102 Phone 0408 133 368