"Postpartum Morbidity - What We Can Do"

R Z Zainur, MRCOG*, K Y Loh, MMed (FamMed)**

*Department of Obstetrics & Gynaecology, **Department of Family Medicine, International Medical University, Seremban, Negeri Sembilan

Summary

Postpartum is a crucial period for a mother. During this period a mother is going through the physiological process of uterine involution and at the same time adapting to her new role in the family. Many postpartum complications occur during this period. Among the important obstetric morbidities are postpartum hemorrhage, pregnancy related hypertension, pulmonary embolism and puerperal sepsis. Common surgical complications are wound breakdown, breast abscess and urinary fecal incontinence. Medical conditions such as anemia, headache, backache, constipation and sexual problems may also be present. Unrecognized postpartum disorders can lead to physical discomfort, psychological distress and a poor quality of life for the mothers. Providing quality postnatal care including earlier identification of the problems (correction) and proper intervention will help the mother to achieve full recovery and restore her functional status back to the pre-pregnancy state sooner.

Key Words: Postpartum, Morbidity, Obstetric, Complication, Health

Introduction

Postpartum is a very special period for a woman and her family. It is usually joyful when a pregnant mother gives birth to a baby she has expected. Despite the pain and discomfort, birth is a long-awaited grand ending of a pregnancy and a start of a new life. However, birth may occasionally jeopardize the good health of a mother and may result in more hazardous outcomes as the postpartum period is often associated with (correction) inadequate maternity care. The lack of postpartum care also contributes to maternal disabilities and deaths which occur during this period. There are also an increasing number of well-conducted studies in the UK[1,2] and elsewhere which document a high prevalence of medical and psychological problems affecting the postnatal mother that are often unrecognized and poorly managed.

The Postpartum Morbidities

The WHO (1998) defines the postpartum period or puerperium, as beginning one hour after the delivery of the placenta and continuing until six weeks (42 days) after the birth of the infant[3]. During this period, the woman is recovering from labour and at the same time adapting to her new role. It is a crucial and critical period for both the mother and her infant[4].

Many of the postpartum complications leading to maternal morbidity begin during the antenatal period, labour and the first 1–2 weeks following delivery. Major acute obstetric morbidities include haemorrhage, pregnancy-related hypertension, obstetric pulmonary embolism and sepsis[5]. Other morbidities include depressive illness, urinary and faecal incontinence, sexual problems, anaemia, wound breakdown, breast problems, headache, backache and constipation[6]. Contraception, though an important need, may be problematic for many couples at this time.

Postpartum Haemorrhage (PPH)

Primary PPH is diagnosed as blood loss of ≥500 milliliters in a 24-hour period after delivery. Its

This article was accepted: 12 October 2006

Corresponding Author: Zainur Rashid, Department of O&G, International Medical University, Jalan Rasah, 70300 Seremban, Negeri Sembilan

prevalence ranges from 5% to 10%. PPH is still the leading cause of maternal death in Malaysia. It contributes to about 21% of all maternal deaths in the country[7,8,9]. The amount of bleeding in PPH is difficult to be measured objectively and clinical estimation tends to underestimate the actual volume loss. During the first few hours after delivery, the health professional has to ensure the involution of the uterus and to make sure that there is no heavy blood loss. If the mother shows signs of significant hemorrhage, she must be resuscitated without delay and stabilized before being transferred to the secondary or tertiary hospital. If the bleeding is particularly severe, blood transfusion and hysterectomy may be the only way of saving a woman's life. Identifying patient at risk of post partum hemorrhage is crucial as this may alert the health personnel to anticipate post partum hemorrhage. It is also important to get easy access to blood product services by the health provider. There must also be arrangement for emergency transport to a higher level of care when an emergency arises[9].

Hypertensive Disorders in Pregnancy (HDP)

HDP is the second commonest cause of maternal mortality in Malaysia[5,7]. The prevalence of HDP is 5–10% and it may continue until ten days postpartum. Postpartum eclampsia comprises between 29% and 44% of all cases of eclampsia, with as many as half of these occurring during the first 48 hours after delivery. Almost half of pregnant women with eclampsia have no warning symptom. It is less likely to occur after five days in the puerperium.

The UK Confidential Enquiry noted unsatisfactory postpartum care in 80% of maternal mortality from hypertensive disorders in pregnancy and recommended strategies for monitoring, adequate recognition of warning symptoms and better communication[10]. In women with pre-eclampsia, magnesium sulphate reduces the risk of eclampsia but does not improve other pregnancy outcomes[11].

Obstetric Pulmonary Embolism

Obstetric pulmonary embolism is the third leading cause of maternal mortality in Malaysia[5,7]. Obstetric pulmonary embolism is caused by either an amniotic fluid embolism or an obstetric blood clot embolism. Two-thirds of the deaths occurred in the puerperium. In Malaysia, most cases are diagnosed clinically because an autopsy is often not performed. Significant number of pulmonary embolism cases was associated with Caesarean delivery. Other risk factors for pulmonary embolism include obesity, prolonged hospitalization, previous history of thrombosis, positive family history, inherited or acquired thrombophilia, maternal age over 35 years and multiparous.

In the management of these patients, there should be urgency in diagnosis and improvement in diagnostic procedures. Health care staff at all levels should be trained to recognize patients who present with features of deep vein thrombosis[12].

In the 1996 Confidential Enquiries the risk of death from pulmonary embolism was 13 per million pregnancies. Substandard care was evident and there were particular risk of late death[10].

Amniotic fluid embolism is an uncommon condition but has high maternal morbidity and mortality rates. However the maternal mortality rate is not affected by improved care as mortality rates from other conditions such as hemorrhage. Early consideration of the diagnosis after prompt resuscitation is probably the best prospect for improving outcomes. A team approach using the red alert system and intensive care is probably the best[13].

Puerperal Sepsis

Puerperal sepsis is still an important cause of maternal mortality in many developing countries including Malaysia[5,7]. Risk factors are prolonged rupture of membrane, prolonged labour, operative delivery, bacterial vaginosis, urinary tract infection, asymptomatic bacteriuria in pregnancy and diabetes mellitus. Untreated puerperal sepsis will lead to chronic pelvic sepsis and pain, pelvic inflammatory disease, dyspareunia and infertility. Fever is the typical symptom and it must be recognized early and antibiotic is the main stay of treatment. Ensuring cleanliness and appropriate use of prophylactic antibiotics at delivery is still the best preventive options.

Heart Diseases

Heart disease is a worrying problem for the obstetrician. It is uncommon and yet contributing the most important cause of maternal mortality among the medical diseases in pregnancy in Malaysia[5,7]. It is well known that the postpartum period is the most dangerous for these women[14].

Ideally patient with preexisting cardiac disease should be seen in the preconception clinic. They should receive advice on contraception and a discussion

regarding pregnancy should be undertaken. Patient with high risk should be cautioned against pregnancy. All pregnant patients with heart disease should be managed in a combined obstetric/cardiac clinic. The delivery should be handled by a multidisciplinary approach especially by the experienced birth care-givers. Family planning needs to be discussed again before being discharged from the hospital after the child-birth.

Depression

Depressive illness is relatively common in the first six months following delivery. Up to 70% of mothers experience the transient weepiness, 10-15% of women suffered from postnatal depression (PND) and a few (0.5%) suffer from puerperal psychosis. Although PND is 100 times more prevalent than puerperal psychosis, majority of these are undiagnosed. This failure of detection is obviously a cause for much clinical concern[11].

Various studies has shown that there is a significant association between depression and multiple physical symptoms such as tiredness, backache, minor illnesses, urinary incontinence, bowel problems and sexual relationship difficulties. If untreated, this will eventually lead to poor physical and psychological health[6].

These problems can be minimized by adequate family and social support as well as support from trained care-givers during pregnancy, labour and postpartum period[15]. In severe cases the affected women may need psychotherapy, counseling or antidepressants[16].

Anaemia

Anemia is a neglected disorder that affects a huge proportion of women, particularly in developing countries. Approximately two-thirds of women were anaemic during puerperium, with 15.8% suffering from moderate to severe anaemia. Risk factors include lack of iron supplementation, preexisting anaemia, perineal trauma and excessive post partum bleeding. Although anaemia in postnatal women is common, the health care system seems to under look at the opportunities to effectively address it, such as through the implementation of the WHO policy recommendation for iron and folic acid supplementation, improvement of obstetric services and screening for anaemia clinically[3]. It is crucial to correct anemia during the antenatal period because mothers with anemia are less able to cope and tolerate blood loss, hence if they develop postpartum hemorrhage, it will lead to worse case scenarios such as maternal death.

Tiredness

Most women are expected to be tired after childbirth. The prevalence for extreme tiredness range from 19% to 59% and up to 50% of women still feel tired a year later[13]. Medical measures might include treatment of stress, anxiety, anaemia, depression, although many women do not seek help[6]. The majorities of causes is probably not medical but are due to the impact of her adaptation to the changes in her lifestyle in the presence of the newborn, including breastfeeding, poor family support, single parenting and sleepless nights. Improving social and psychological support might help but difficult to be assessed by any controlled trials[6].

Headache

The reported prevalence of postpartum headache is 14–22% and found to be more common among the lower social class group, young mothers, multiparous and those with lack of social support. Thus, headache after delivery could be viewed as a marker for social stress. After elimination of medical causes of headache, health professionals should look for related problems such as tiredness, depression, inability to cope and lack of support[17].

Backache

Backache is a common symptom during puerperium which may last for months after delivery. There are associations with caesarean section, with long second stage of labour and with epidural analgesia during labour. A systematic review of general population trials of back pain management shows that analgesia and advice to stay active are effective but bed rest is not[18].

Breast Problems

Approximately 33% of all women experienced some degree of breast problems in the first two weeks postnatally, and 28% in the weeks thereafter[3]. This prevalence may be an underestimated, because some women may have attributed these problems as a common event during baby feeding. Apart from overt mastitis which is a relatively rare condition, these problems may comprise breast engorgement, nipple trauma such as sore, cracked, bleeding or inverted nipples. Breast problems are often cited as the major reasons for stopping breastfeeding. These problems can be minimized with the support of breastfeeding and skilled help to establish breastfeeding in the early postpartum period[3]. Breast feeding can be continued if these problems are dealt with effectively.

Perineal Trauma and Pain

Perineal trauma is common sequelae of childbirth. For primiparous, prevalence of perineal trauma either

secondary to spontaneous birth or due to an episiotomy has been found between 83 and 95%. Perineal pain during early puerperium is one of most common causes of maternal morbidity irrespective of mode of delivery or extent of perineal trauma. Pain is also commoner after an instrumental delivery. A systematic review of vacuum versus forceps delivery has shown significantly less serious maternal injury and less severe perineal pain within 24 hours with vacuum extraction[19]. However, the degree of perineal trauma, use of episiotomy, type of repair, type of suture material used and the type of delivery, directed pushing, position of woman during labour and epidural use may all affect the severity of perineal pain experienced[20].

After delivery, it is distressing for the women when the dynamic change in her family affects her ability to cope with being a mother and partner. After vaginal delivery it takes a month to achieve perineal comfort and three months to achieve pain free sexual inter course while approximately 20% of women may require more time ranging from 3 to 6 months[20]. This problem may greatly affect a woman's sexual activity with her partner.

Sexual Problems

Most couples resume sexual intercourse after six weeks of postpartum and may have regular intercourse by 6 to 12 months later. Dyspareunia is more common in women with perineal pain and those who have had an episiotomy. Breast feeding, tiredness and postnatal depression may also contribute to sexual problems such as dysparunia and lack of sexual desire[21].

Urinary Problems

Urinary problems are very common during puerperium because the urinary tract is very vulnerable during this period, partly because of hormonal changes in pregnancy as well as because of the proximity of the genital tract.

Urinary Tract Infection (UTI)

UTI frequently occurs during the puerperium. The prevalence of postnatal UTI ranges from 3% to 17%[2]. During pregnancy there is a stasis in the urinary tract and asymptomatic bacteriuria lead to infections. Catheterization during labour and urinary retention postnatally also predispose to infection. Cystitis and pyelonephritis occur in the puerperium, should be treated adequately by antibiotics. The challenge to the health professional is to be able to diagnose and treat the infection in time before resulting into more hazardous outcomes.

Voiding Difficulties

Urinary retention is a common and frustrating complication in women during the immediate postpartum period. Postpartum urinary retention has a reported incidence ranging from 1.7 to 17.9 percent. Factors associated with postpartum urinary retention include first vaginal delivery, epidural anesthesia, Cesarean section, operative vaginal deliveries, prolonged first and second stages of labour and large fetal head circumference[22]. Supportive measures to enhance the likelihood of micturition, such as ambulation, privacy, and a warm bath should begin as soon as possible. If these measures are not successful, catheterization and bladder drainage as well as training can be performed.

Urinary Incontinence

Postpartum urinary incontinence is an important cause of morbidity but often overlooked. It is also seldom reported by pregnant women. Common reasons for women not seeking help are: (i) they do not perceive it as a problem (ii) they do not expect that treatment would help and (iii) embarrassment. The risk factors include large babies, high parity, vaginal delivery and "difficult deliveries" such as lengthy pushing with or without instrumentation delivery[23]. Majority of the postpartum urinary incontinence are multi-factorial in origin. Conservative therapy centering on retraining the pelvic floor musculature have been shown to be effective in general female populations but not proven among the postnatal women[6].

Anal Incontinence

There is often under-reported symptom of anal incontinence to the health professionals. Anal sphincter injury is reported in about 2.5% of vaginal deliveries in centres that practice mediolateral episiotomy and about 11% in centres that practice midline episiotomy[24]. The symptoms may include flatus and faecal incontinence.

However, about 33% of women sustain occult anal sphincter injury during vaginal delivery. The most credible answer for this difference is either the injury is not recognized or it has been wrongly classified as a second-degree tear. Forceps delivery, midline episiotomy, first vaginal delivery, large baby, shoulder dystocia and a persistent occipito-posterior position have been identified as the main risk factors for the development of a third or fourth-degree tear[25].

Despite primary repair following acute obstetric anal sphincter rupture, up to 59% of women continue to

suffer from faecal incontinence[25]. This may reflect on the poor technique or inadequate training in anatomical identification of the sphincter. Therefore the repairs should be supervised by experienced obstetricians and adequate documentation must be made on the findings and technique of repair. Good follow up including counseling of the woman, her family and her general practitioner are essential.

Wound Breakdown

Perineal wound breakdown occurs in 2–6% of post delivery mothers. These are due to infection, incorrect suturing technique or type of suture and abnormal strain on tissues[2]. The recommended effective treatment is re-suturing the wound and commencing on the appropriate antibiotics. Up to 10% of post-caesarean wounds become infected or poorly healed. The Pfannenstiel incision is cosmetically more acceptable than midline incisions and less liable to result in wound disruption or incisional hernia. Prophylactic antibiotics during caesarean section have been proven effective in reducing the risk of caesarian wound infection[26].

Constipation

Constipation is a common problem in the puerperium as approximately a fifth of women suffer from it following delivery[2]. This is thought to be caused by the high progesterone levels in pregnancy, interruption of normal diet, possible dehydration and opiate usage in labour and also a positive association with forceps delivery. Advice on adequate fluid intake and increase in fiber intake may be all that is necessary. Avoidance of constipation and straining is of utmost importance in women who have sustained a third or fourth-degree perineal tear. They should be prescribed on stool softeners immediately after perineal repair for a period of two weeks.

Haemorrhoids

Many women seek treatment for haemorrhoids during the puerperium. On most occasions it resolves spontaneously in the postnatal period. Therefore very few require further consultation for surgical treatment. Haemorrhoids are associated with longer second-stage labour, instrumental delivery, perineal trauma and larger babies[17]. Most of the haemorrhoids can be managed conservatively with diet therapy and oral medications.

Conclusion

The puerperium is an important period for post delivery mothers. Many complications following delivery can occur during this period up to six weeks postpartum. Unrecognized postpartum disorders can lead to physical discomfort, psychological distress, low self esteem and poor quality of life for the mothers. It is the duty of health care workers to provide quality postnatal care and to be able to identify the problems earlier so that proper intervention can be initiated. With good health care support, hopefully most mothers will be able to achieve full recovery to the pre pregnancy state sooner.

References

1. Glazener CMA, Abdalla MI, Russell IT, Templeton AA. Postnatal care: a survey of patients' experiences. British Journal of Midwifery 1993; 1: 67-74.
2. Glazener CMA, Abdalla MI, Stroud P, Naji SA, Templeton AA, Russell IT. Postnatal maternal morbidity: extent, causes, prevention and treatment. Br J Obstet Gynaecol 1995; 102: 282-7.
3. World Health Organization: Postpartum care of mother and newborn: a practical guide. WHO/RHT/MSM/98.3. Geneva: WHO; 1998.
4. Cunningham F, Gary , Eds, *et al.*: Williams Obstetrics. 21st edition. New York: McGraw Hill; 2002.
5. Ng KY. Overview of maternal deaths in Malaysia. Report on the Confidential Enquiries into Maternal deaths in Malaysia 1997-2000. Ministry of Health Malaysia 2005; 1-13.
6. Glazener CMA, MacArthur C, Postnatal morbidity, The Obstetrician and Gynaecologist 2001; 3(4): 179-83.
7. Sulaiman AB, Mathews A, Jegasothy R. A strategy for reducing maternal mortality. Buletin of the WHO. 1999; 77(2): 190-92.
8. Thambu J. Postpartum haemorrhage. Mal J of Obstet Gynaecol 2004; 8; 1-5.
9. Arumainathan T, Balakrishnan SS. Postpartum Haemorrhage. Report on the Confidential Enquiries into Maternal deaths in Malaysia 1997-2000. Ministry of Health Malaysia 2005; 14-22.
10. Drife J, Lewis G, editors. Why Mothers Die. Report on Confidential Enquiries into Maternal Deaths in the United Kingdom 1994–96. London: HMSO; 1998.
11. The Magpie Trial Collaborative Group. Do women with pre-eclampsia and their babies, benefit from magnesium sulphate? The Magpie Trial: a RCT. Lancet 2002; 359: 1877-90.
12. Ravindran J. Sudden maternal deaths probably due to obstetric pulmonary embolism in Malaysia 1991. Med J Malaysia. 1994; 49(1): 53-61.
13. Ravindran J. Obstetric embolism. Report on the Confidential Enquiries into Maternal deaths in Malaysia 1997-2000. Ministry of Health Malaysia 2005; 37-48.
14. Jamiah H, Sofiah S. Heart diseases in pregnancy. Report on the Confidential Enquiries into Maternal deaths in Malaysia 1997-2000. Ministry of Health Malaysia 2005; 86-93.
15. Kadir AA, Nordin R, Ismail SB *et al.* Validation of the Malay version of Edinburgh Postnatal Depression Scale. Asia Pacific Family Medicine 2004; 3(1-2): 9-18.
16. Victoria H. Treatment of postnatal depression. Br Medical Journal 2003; 327: 1003-104.
17. MacArthur C, Lewis M, Knox EG. Health after Childbirth. London: HMSO; 1991.
18. Young G, Jewell D. Interventions for preventing and treating backache in pregnancy. Cochrane Database Syst Rev, 2000; Issue 4.
19. Johnson RB. Vacuum extraction versus forceps for assisted vaginal delivery. Cochrane Database Syst Rev 2000; Issue 4.
20. Raheel S, Amna M, Fouzia S. Perineal pain after vaginal delivery. Journal of Surgery Pakistan Apr-Jun 2003; 08 No 04.
21. Glazener CMA. Sexual function after childbirth: women's experiences, persistent morbidity and lack of professional recognition. Br J Obstet Gynaecol 1997; 104: 330-5.
22. Saultz JW, Toffler WL, Shackles JY. Postpartum urinary retention. J Am Board Fam Pract. 1991; 4(5): 341-4.
23. Linda Brubaker. Postpartum urinary incontinence. Editorial BMJ 2002; 324: 1227-28.
24. Sultan AH. Anal incontinence afterchildbirth. Curr Opin Obstet Gynaecol 1997; 320-4.
25. Royal College of Obstetricians and Gynecologists. Management of Third and Fourth-Degree Tears Following Vaginal Delivery. Clinical Guideline No. 29. London: RCOG Press; 2001.
26. Smaill F, Hofmeyr GJ, Antibiotic prophylaxis for cesarean section. Cochrane Database Syst Rev 2000; Issue 4.

MCQ

POSTPARTUM MORBIDITY – Have We Done Enough?

1. The following statements are true concerning postpartum morbidities.
A. Postpartum heamorrhage is the major cause of maternal mortality in Malaysia.
B. Pregnancy related hypertension is unlikely to occur following delivery of the baby.
C. Vacuum extraction delivery is associated with lower incidence of perineal pain as compared to forcep delivery.
D. Headache may be a presenting feature of depression.
E. Mothers with anemia tolerate poorly to postpartum heamorrhage.

2. Risk factors for obstetric pulmonary embolism are:
A. Obesity
B. Prolonged hospitalization
C. Positive family history
D. Primigravida
E. Thrombocytopenia

3. The following statements are true concerning postpartum urinary incontinence (UI) .
A. Majority of postpartum UI has underlying surgical cause.
B. Multipara is a known risk factor for UI.
C. Surgical intervention is the treatment of choice.
D. Pelvic floor exercise can be effective as first line management.
E. Felling embarrass on the part of the mother is a factor in delay diagnosis and treatment.

4. Recognized risk factors for puerperal sepsis are:
A. Undiagnosed urinary tract infection.
B. Prolonged labour
C. Premature rupture of membrane
D. Bacterial vaginosis
E. Diabetes mellitus.

5. The following are the consequences of unrecognized postpartum morbidities.
A. Maternal depression
B. Recurrent physical symptoms
C. Relationship problems.
D. Poor quality of life
E. Low self esteem