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Postpartum collapse

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KEYWORDS

Puerperal complications;
Cardiopulmonary arrest;
Resuscitation;
Maternal mortality

Summary

Postpartum collapse signifies an acute event involving the brain, heart or lungs and may ultimately result in death. Every effort should be made to prevent this possible catastrophic outcome. This can be achieved by understanding the causes of maternal collapse and by prompt appropriate resuscitation. Implementing guidelines and ensuring a multidisciplinary input will improve the chances of a good outcome. In addition, it is essential that high-risk women are identified in the antenatal period to allow care to be optimized to prevent postpartum collapse.

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Maternal morbidity and mortality

Measurement of maternal mortality is complex. It is difficult to assess the magnitude of the problem worldwide, as obtaining accurate data is difficult due to constraints on maternity services in developing countries where data collection is hardly a priority. The estimated number of maternal deaths worldwide in 2000 was 529,000. Less than 1% of these deaths occurred in the developed world. In terms of maternal mortality rate (MMR), the world figure was estimated to be 400 per 100,000 live births. This underestimates the risk of pregnancy-related death, as women who die due to complications prior to fetal viability, after a stillbirth, or due to a complication of pregnancy outside the immediate postnatal period, may not be counted in these statistics.

The lifetime risk of maternal death in Europe is 1:2400, compared with 1:16 in Sub-Saharan Africa. In the UK the Confidential Enquiry into Maternal Death has in the past

provided important information regarding the risk of maternal death and the most common causes (Table 1). These and other statistics from the developed world confirm that a significant number of maternal deaths occur during the puerperium. Morbidity is even more poorly documented in both the developed and the developing world but the same causes of maternal deaths result in considerable morbidity.

Causes of postpartum collapse

Non-serious causes commonly cause suspected collapse and these include hyperventilation and vasovagal attacks. These episodes are usually self-limiting and maternal observations will rapidly return to normal with simple measures such as reassurance and changing maternal position. Hypoglycaemia should be excluded in all women with a change in consciousness of uncertain cause.

There are many serious causes of collapse but in all cases management involves prompt resuscitation whilst the differential diagnosis is considered. Table 2 lists causes of collapse, incidence and important management points. More detailed management will require involvement of

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Table 1 Leading causes of maternal death in UK (CEMACH 2000–2002).

Cause	Number of deaths	Comment
Thrombo-embolism	30 direct	<ul style="list-style-type: none"> • +1 late death* • Including 17 cases of postnatal pulmonary embolism (10 post-Caesarean sections, 7 post-vaginal deliveries)
Haemorrhage	17 direct	<ul style="list-style-type: none"> • 10 cases of PPH • 7 cases APH (4 placenta praevia, 3 abruption)
Early pregnancy deaths	15 direct	
Hypertensive disorders	14 direct	<ul style="list-style-type: none"> • +1 late death* • Including 6 cases of eclampsia (2 postnatal)
Sepsis	13 direct	<ul style="list-style-type: none"> • +1 late death* • Including 8 cases of postpartum deaths (5 post-Caesarean section, 3 post-vaginal deliveries)
Anaesthesia	6 direct	<ul style="list-style-type: none"> • 1 case due to anaphylaxis
Amniotic fluid embolism	5 direct	
Cardiac	44 indirect	<ul style="list-style-type: none"> • +8 late deaths* (7 cases of cardiomyopathy) • Including 8 cases of cardiomyopathy (4 postpartum), 8 cases of ischaemic heart disease (4 postpartum), 9 cases of congenital heart disease, 7 cases of aneurysm
Psychiatric	60 (total)	<ul style="list-style-type: none"> • Including 26 late deaths* • Including 28 cases of suicide (leading cause of maternal death) • Including 11 cases of drug/alcohol abuse

APH: Antepartum haemorrhage; PPH: Postpartum haemorrhage.

*Late deaths are defined as a death occurring more than 42 days but less than 1 year after pregnancy.

appropriate specialists including intensivists, general physicians, cardiologists, neurologists or general surgeons depending on the nature of the suspected underlying problem and is outside the scope of this article.

Management of postpartum collapse

Advance preparation for carers

Fortunately in modern obstetrics maternal collapse is a rare event, however, less fortunately it is often a sudden unexpected event. Thus to ensure the best possible outcome all healthcare professionals involved in the care of postnatal women must be prepared in case they are faced with this situation, and if risk factors are present, the situation should be anticipated and planned for.

Multiple factors will have to be considered during an emotionally dramatic event. Higher awareness of maternal risk factors (Table 2) together with active surveillance to identify causes of early maternal compromise leading to early intervention and good level of communication can minimize maternal morbidity and mortality. Clear plans for management during pregnancy, labour and throughout the postpartum course when put in place will help care providers to prepare and hopefully prevent poor outcome.

This can be achieved through early antenatal identification of maternal risk factors and multidisciplinary team involvement. Clinical consultation with the obstetric anaesthetist during antenatal assessment of patients with co-existing medical conditions can anticipate problems and reduce morbidity.

All units in the UK should have guidelines for management of maternal collapse; these should be widely circulated both within the maternity department and the accident and emergency department. They must also be readily accessible in an emergency and updated on regular basis.

Pregnancy induces physiological changes in all major maternal organs that may mimic early signs of maternal compromise. Early recognition of subtle changes in the level of consciousness, for example, changes in pulse rate and respiratory rate, can prevent a case of cardiopulmonary collapse.

Training

Resuscitation of a newly delivered mother can be challenging if the rescuer is not prepared. Nowadays, obstetricians and midwives are expected to be able to provide the necessary care if and when required. Our exposure to managing acute emergencies (obstetric and non-obstetric)

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