primary postpartum haemorrhage (PPH) is defined as bleeding of 500ml or more, or any amount that has a detrimental effect on a woman’s wellbeing, from the genital tract within the first 24 hours after giving birth (WHO, 2012; Jangsten et al, 2011; Mousa and Alfrevic, 2007; NICE, 2006). A PPH may be accompanied by one or more clinical signs and/or symptoms depending on the amount of blood loss. Clinical signs of a PPH include palpitations, dizziness, tachycardia, weakness, sweating, restlessness and pallor, and ultimately collapse (Schuurmans et al, 2000). If the blood loss is 500ml to 1000ml with no clinical signs of shock, then it is regarded as a minor PPH. When there is a loss of over 1000ml, or the woman has signs or symptoms of shock, then it is a major PPH (RCOG, 2011).

Once a PPH is identified, four components of management should be instigated simultaneously: communication and resuscitation, monitoring and investigation, as well as measurements to control the bleeding (RCOG, 2011). This article will primarily look at care within a hospital setting – management of such an emergency at home isn’t addressed here.

Communication
The midwife should communicate to the woman and her birth partner the need to summon help quickly and press the emergency buzzer. If it is a minor PPH, the midwife in charge and first-line obstetric and anaesthetic staff should be contacted in the first instance (RCOG, 2011). For a major PPH, summon the obstetric, anaesthetic and haematology consultants, as well as the blood transfusion laboratory and porters (RCOG, 2011). At a home birth or a standalone birth centre, contact the emergency services. Once the PPH emergency equipment is in situ, coordinate the assistance. Helper one should assess, maintain and monitor the woman’s airway if needed, while helpers two and three should gain intravenous (IV) access, start IV fluids and take blood if needed. A designated person should note the time of relevant events.

Next comes resuscitation – the woman should be laid flat, her breathing assessed and she should be kept warm. If required, she should be given a high flow oxygen mask at 10l to 15l per minute. In the event of a minor PPH, with no clinical signs of shock, insert one large bore cannula and start rapid fluid resuscitation with two litres of crystalloid (RCOG, 2011). For a major PPH, or if the woman is displaying signs and symptoms of clinical shock, insert two large bore cannulae and transfuse blood as soon as possible. Until blood is available, start a rapid warmed infusion of up to 3.5l of crystalloid (Hartmann’s solution two litres) and/or one to two litres of colloid (RCOG, 2011).

Identifying Possible Causes of PPH

The four T’s to look for:

► Tone
Failure of the myometrium to contract adequately (atonic uterus) after the birth is the most common cause of PPH (Lewis, 2011; Mousa and Alfrevic, 2007)

► Tissue (retained products of conception)
The placenta and membranes should be checked to ensure they are complete

► Trauma
A vaginal examination should be carried out to check for any bleeding from the genital tract. If this is the cause, the woman should be stabilised and the tear repaired

► Thrombin (abnormalities of coagulation)
The woman’s blood loss should be observed to assess whether it is clotting
Monitoring and investigation
In order to monitor the woman's condition, her respiratory rate, pulse and blood pressure should be assessed and a modified obstetric early warning system chart should be completed.

For a minor PPH, bloods for group and screen, full blood count and coagulation screen should be taken and identified. The woman’s pulse, respiration rate, temperature and blood pressure should also be recorded every 15 minutes. A foley catheter should be inserted and the woman’s urine output should be monitored.

For a major PPH, in addition to the management above, these measures should be considered: the woman’s blood being taken for crossmatch (four units minimum), a full blood count and renal and liver function for baseline. Also, the pulse oximetry, blood pressure and respiratory rate should be continuously recorded (RCOG, 2011).

It is important to try to identify the possible cause or causes of the PPH (see box, left). Then measures should be taken to stop the bleeding.

Stopping a bleed
If the cause is uterine atony, the midwife should massage the uterus to expel any clots (see above), and administer drugs to promote contractions. The drug treatment used will depend on local guidelines.

If management of the third stage was physiological, then either 10mg of oxytocin or one ampule of syntometrine should be administered intramuscularly (IM), depending on clinical circumstances and availability (Winter et al, 2012). If the woman has already received an oxytocic drug, a second dose should be given (Winter et al, 2012). The RCOG (2011) and WHO (2012) recommend five units of oxytocin by slow IV infusion, which may be repeated if required.

The WHO (2012) recommends that if IV oxytocin cannot be administered, or if the bleeding does not respond to it, then IV ergometrine, syntometrine, or a prostaglandin drug should be given.

The RCOG (2011) recommends that if the bleeding is unresponsive to oxytocin then a slow IV injection of 5mg of ergometrine be given, unless there is a history of hypertension. However, ergometrine is not advised if the placenta is still inside the uterus (WHO, 2012; RCOG, 2011).

If the uterus contracts after these measures, a syntocinon IV infusion should be administered (Winter et al, 2012; RCOG, 2011), unless there is fluid restriction (Winter et al, 2012; RCOG, 2011).

If a uterus is still not well contracted after the second dose of an oxytocic drug (Winter et al, 2012; RCOG, 2011), carboprost 0.25mg by IM injection repeated at intervals of no less than 15 minutes to a maximum of eight doses (contraindicated in women with asthma) or misoprostol 1000μg rectally should be used.

Should these physical and pharmacological methods fail to control excessive blood loss, then balloon tamponade, haemostatic brace suturing, bilateral ligation of the uterine arteries or the internal iliac arteries, selective arterial embolisation or a hysterectomy may be needed (RCOG, 2011).

Most causes of PPH will be successfully controlled via a second dose of oxytocic drug, bladder catheterisation and repair of vaginal tears. However, if not, subsequent management is most effectively performed in the operating theatre (Winter et al, 2012).

The possibility of a primary PPH means that the third stage of labour has been described as potentially the most risky part of childbirth (Jangsten et al, 2011; Rogers et al, 1998). So it is essential that the midwife is familiar with its immediate management, so she can detect excessive blood loss and instigate the necessary treatment with the rest of the multidisciplinary team to reduce maternal morbidity and mortality.

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For references, visit the RCM website.