CORRESPONDENCE

Emergencies Associated With Pregnancy and Delivery: Peripartum Hemorrhage

by Prof. Dr. med. Franz Kainer, PD. Dr. med. Uwe Hasbargen
in volume 37/2008

Dr. med. Norbert Ostendorf
St. Katharinen-Hospital GmbH
Kapellenstr. 1–5
50226 Frechen, Germany
Ostendorf@khs-frechen.de

Different Products

The terms cryoprecipitates and prothrombin complex concentrates (PPSB) cannot be used synonymously; they refer to two totally different products. Cryoprecipitates are rich in fibrinogen but have ceased to be available as a routine preparation several years ago. PPSB do not contain fibrinogen or fibronectin. The authors do recommend the separate administration of fibrinogen elsewhere in the text. However, they do not mention that if larger amounts of PPSB are substituted, antithrombin should be substituted as well (1).

The statement "In emergencies, patients are given uncrossed O-negative packed cells. It should be remembered that the blood group is usually known since it is entered in the patient's maternity record card" is doubtful: The blood group is certainly recorded in the maternity record card, but an immunohematological laboratory has an obligation to check the blood group before providing erythrocyte concentrates (EC) (2). The sentence could be misinterpreted to mean that EC of the supposed patient's blood group can be administered without crossmatch.

If a patient is in danger of bleeding to death, O-negative packed red cells are given without crossmatch, with a residual risk of antibodies to Rhesus-c or -e. The maternity pass should be consulted for antibody testing. Before emergency transfusion, a blood sample should be taken because otherwise O-EC will also have to be used for further transfusions.

If there are a few minutes to spare, the patient's blood group can be determined in the in-house laboratory. If the patient is known to the hospital, her AB0 and RH blood group are likely to be known. In that case, blood group matched EC can be given without crossmatch. The EC should—if possible—be compatible for Rhesus subgroups, to avoid immunizations.

DOI: 10.3238/arztebl.2009.0113a

REFERENCES

1. Vorstand und wissenschaftlicher Beirat der Bundesärztekammer (eds.): Leitlinien zur Therapie mit Blutkomponenten und Plasmaderivaten. <http://www.bundesaerztekammer.de/page.asp?his=0.6.3288.6716>
2. Bundesärztekammer und Paul-Ehrlich Institut: Richtlinien zur Gewinnung von Blut und Blutbestandteilen und zur Anwendung von Blutprodukten (Hämotherapie). <http://www.bundesaerztekammer.de/page.asp?his=0.6.3288.5437>
3. Kainer F, Hasbargen U: Emergencies Associated With Pregnancy and Delivery: Peripartum Hemorrhage. *Dtsch Arztebl Int* 2008; 105(37): 629–38.

Cardiovascular Side Effects

The authors' recommendation of administering uterotonic drugs (box 1) should carry a warning that all commonly used substances have cardiovascular side effects that may have fatal consequences if they coincide with hypovolemia. This is important because nowadays pregnant women are usually of an older age. Close cooperation between obstetricians and anesthetists is key. At Münster University Hospital, for example, an agreement was reached for how to proceed in a scenario of severe postpartum hemorrhage; the choice and maximum dosage of uterotonic medication according to the latest scientific insights and maternal monitoring are closely regulated. Early embolization is recommended in hemorrhages that are refractory to treatment (1).

In contrast to continual administration, bolus administration of oxytocin triggers tachycardia and hypotension (2). Angina pectoris and ST segment depression have been found after bolus administration of 10 IU oxytocin during cesarean births (3). Tachycardia and hypotension aggravate the hemodynamic changes in atonic hemorrhages and volume loss. The CEMACH report 1997–9 included details of two maternal deaths in connection with bolus administration of oxytocin in simultaneous hemodynamic instability. The literature provides many examples that continual administration of oxytocin is equivalent to bolus administration. Bolus administration should thus not be undertaken.

DOI: 10.3238/arztebl.2009.0113b

REFERENCES

1. Mathe ML, Morau E, Vernhet-Kovacsik H et al.: Impact of the new French clinical practice recommendations in embolization in postpartum and post-abortion hemorrhage: study of 48 cases. *J Perinat Med* 2007; 35: 532–7.
2. Thomas JS, Koh SH, Cooper GM: Haemodynamic effects of oxytocin given as i.v. bolus or infusion on women undergoing Caesarean section. *Br J Anaesth* 2007; 98: 116–9.
3. Svanstrom MC, Biber B, Hanes M et al.: Signs of myocardial ischaemia after injection of oxytocin: a randomized double-blind comparison of oxytocin and methylethylmethylol during Caesarean section. *Br J Anaesth* 2008; 100: 683–9.
4. Kainer F, Hasbargen U: Emergencies Associated With Pregnancy and Delivery: Peripartum Hemorrhage. *Dtsch Arztebl Int* 2008; 105(37): 629–38.

PD Dr. med. Christiane Goeters
Prof. Dr. med. Dr. h.c. H. van Aken
Klinik und Poliklinik für Anästhesiologie und operative Intensivmedizin des UK Münster
Albert-Schweitzer-Str. 33
48143 Münster, Germany
goeters@anit.uni-muenster.de