

POSTPARTUM HAEMORRHAGE

DR HALLE - EKANE.

Obstetrician - Gynaecologist.

General Hospital Douala.

CAMEROON.

Introduction

- Where nothing is done to avert maternal deaths, 'natural' maternal mortality ratio is probably 1500/100,000.
- Part of the world now has a maternal mortality ratio of 5, some 300 times more.
- Only industrialised countries have achieved such stable historical low ratios but some middle-income countries and some poor countries are getting quite close, around or well below 50.

Introduction

- Estimated maternal mortality ratio in countries with a GNP of less than 1,000US dollars ranges between 22-1600/100,000.
- Large inter-country differences remain:some still have maternal mortality ratios that are roughly equivalent to the 'natural' maternal mortality.
- Lack of money for high-tech medicine is thus not the only explanation for the very high levels of MMR in some countries today.

Introduction

- Relative successes and failures to reduce MMR is to a large extent a history of different approaches to the professionalisation of delivery care even before technology-assisted hospital delivery became the norm.
- Proper management of hypertensive disorders in pregnancy, infections and antepartum/postpartum haemorrhages the leading causes of maternal morbidity and mortality largely explains this inter-country differences of MMR.

Introduction

- Despite the improved management of primary post partum haemorrhage (PPH).
- PPH remains an important cause of maternal morbidity in both developing and technologically advanced countries.
- It remains a condition that puts the obstetrical team under a lot of stress.
- Complications of PPH can only be reduced when the condition is promptly diagnosed and therapeutic measures instituted immediately.

INTRODUCTION

- Systematically, preventive measures have to be taken by the obstetrical team intra partum by identifying patients with risk factors.
- The personnel should be conversant with the general principles in the management of cases of post partum haemorrhage.
- Back up services should be available. (blood transfusion services, surgical theatre etc).

DEFINITION OF PPH

- Primary PPH: Excessive bleeding of more than 500c,c from the genital tract in the first 24hours after delivery.
- Secondary PPH usually occurs after this period upto six weeks after delivery.
- Estimation of blood loss however after delivery is often difficult : PPH defined as decrease in haematocrit by 10%. Definition used in research and not useful clinically because it is retrospective.
- Coombs suggested that 'PPH can be defined as a clinical situation necessitating blood transfusion'

DEFINITION OF PPH.

- Problem of Coombs definition: Attitudes towards transfusions are so varied in clinical practice and even among clinicians.
- Operational definition: any blood loss that leads to a significant change in the haemodynamic status of a patient. (At risk patients are those suffering from anaemia, hypertensive disorders in pregnancy, dehydration and those of short stature).
- Some authors only consider blood loss of >1000c.c (PPH)- clinically symptomatic.

EPIDEMIOLOGY

- PPH occurs in about 5-15% patients after delivery.

Aetiology: Primary PPH is usually considered as a disorder of one or more of the four processes:

- Uterine atony, retained clots or placental debris, genital lesions and disorders of coagulation.
- Acronym (Aide memoire); {Four 'T's}: tonus, tissue, trauma and thrombin.

RISK FACTORS OF PPH TONUS-UTERUS

- Overdistension: polyhydramnios multiple pregnancy, macrosomia.
- Uterine atony:-precipitated labour, prolonged labour, grand multiparity.chorioamnionitis
- Uterine anomalies or functional distortion: uterine malformations, placenta praevia, multiple uterine or huge uterine fibroids.

RISK FACTORS OF PPH TISSUE-PLACENTA

- Retained placenta debris.
- Retained accessory cotyledon (succenturiate lobe).
- Abnormal placenta.
- Retained foetal membranes.
- (situations that can occur when there is a history of previous surgery, ultrasonically diagnosed placental anomaly, grand multiparous patients.)
- Clot retention-uterine atony.

RISK FACTORS OF PPH GENITAL - TRAUMA

- Cervical, vaginal, perineal lacerations (abrupt and instrumental deliveries).
- Extension of uterine incisions, laceration during caesarean section.(uterine deviations and engagement of presenting parts).
- Uterine rupture. (previous c/s, myomectomy, metroplasty, perforation).
- Uterine inversion.(grand multiparity, poorly managed third stage of labour with a fundally situated placenta).

RISK FACTORS OF PPH GENITAL-TRAUMA

- Bleeding from an episiotomy or perineal laceration is usually obvious and prompt ligature will control the bleeding
- Persistent bleeding with a contracted uterus especially after oxytocin has been administered is strongly suggestive of genital tract lesion.
- Exploration is best done under general anaesthesia or continued epidural anaesthesia.
- Cervical lesions should be repaired after good exposition with interrupted or continuous absorbable sutures.

RISK FACTORS OF PPH GENITAL-TRAUMA

- Significant bleeding in the absence of cervical, vaginal or perineal tears is suggestive of uterine rupture even if there is response to oxytocics.
- Digital exploration of uterus in cases of previous c/s and difficult or complicated deliveries.
- Broad ligament haematoma- Due to damage of the uterus.
- Management is usually conservative: blood transfusion, antibiotics to prevent secondary infection.

RISK FACTORS OF PPH GENITAL-TRAUMA

- Diagnosis is not easy: progressive anaemia, tenderness, swelling in one or both iliac both iliac fossae.
- Acute symptoms might not be present because bleeding is usually limited in the large ligament
- Concealed vaginal and vulva haematoma are not infrequent: they tend to be progressive rather than self limiting
- Resuscitation, incision, evacuation of clots and ligation of bleeding vessels. Simple packing does not usually control bleeding.

RISK FACTORS OF PPH THROMBIN- COAGULOPATHY

- Hereditary coagulopathies: Haemophilia A, Von Willebrands disease.
- Acquired during pregnancy: thrombopenia of HELLP syndrome, DIC (eclampsia, intrauterine foetal death, septicaemia, placenta abruptio, amniotic fluid embolism).
- Anti coagulant therapy: Valve replacement, patients on absolute bed rest.

PREVENTION OF PPH DRUGS- OXYTOCIN

- Oxytocin reduces the risk of PPH by 40% when administered during third stage.
- To prevent 1 case of PPH 22 patients have to be administered prophylactic doses of oxytocin.
- Risk of placental retention and prolongation of the third stage negligible.
- Administration of oxytocin following the delivery on the anterior shoulder.
- Dose: 10 units I.M, 5 units I.V bolus or 10-20 units/1000c.c of saline at 100-150cc /hr.

PREVENTION OF PPH DRUGS

- New analogue of Oxytocin: Carbetocin is under experimentation for the prevention of PPH.
- It has a more rapid onset and longer duration of action. Half life is 40 minutes in comparison with that of oxytocin of 4-10 minutes.
- Misoprostol has also given encouraging results in the prevention of PPH.
- However large scale randomised double blind studies are yet to be carried out to confirm its utility in management of PPH

MANAGEMENT OF PPH

- Rapid diagnosis: Any excessive bleeding after delivery should be identified immediately.
- Presence of a qualified obstetrical team.
- Precise plan of action for the management of cases of PPH.
- Drugs, equipment, surgical theatre and blood transfusion services should be available.

MANAGEMENT OF PPH -REANIMATION-

- Intravenous drip with a large catheter.(saline or crystalloids}
- Oxygen by face mask 5-8L/min.
- Monitoring of pulse,B.P,RR,urine out by an in dwelling +/-urinary catheter.
- +/-Oxygen saturation
- Laboratory test: blood group, cross matching of blood, FBC,clotting test, platelet count. Detection of coagulopathies: fibrinogen, fibrin degradation products.

MANAGEMENT OF PPH

-Determine aetiology-

- Examine uterus for atonia, hypotonia, rupture or inversion.
- Examine lower genital tract for possible cervical, vaginal and important perineal tears.
- Exclude coagulopathies: bed side clotting test, clotting profile, fibrinogen and FDP.
- Placenta debris and exclude clot retention.

MANAGEMENT OF PPH

-Specific treatment-

- Uterine atonia or hypotonia: massage, compression, drugs. (oxytocin, syntometrine, methyl ergometrine).
- Placenta debris and clots: Digital uterine exploration.
- Ruptures and lacerations: identification and repair.
- Correct uterine inversion.
- Coagulopathy: fresh blood transfusion, platelets concentrates, clotting factors

MANAGEMENT OF PPH -specific treatment-

- PPH refractory to treatment: assistance from anaesthetist and surgeon.
- Local control of bleeding: manual compression. Uterine tamponnage
- +/- Vasopressin, arterial embolisation.
- Ligature of uterine or internal iliac artery.
- Hysterectomy: subtotal or total abdominal hysterectomy. [experience of obstetrician or surgeon, haemodynamic state of patient, anaesthesia and blood transfusion facilities.]

PPH - UTERINE ATONY

- Most frequent cause of PPH.
- Uterine cavity should be explored to removed retained placenta products or clot.
- Concomitant uterine massage.
- Administration of uterotonics:
 - Oxytocin: 10 units I.M, 5 units I.V bolus injection, 20units in 1 litre of ringer lactate or saline
- Side effects:nausea,vomiting are common but water intoxication is rare in clinical practice.

PPH – UTERINE ATONY

- Methylergometrine: an alkaloid of ergot that induces tetanic uterine contractions.
- Dose: 0.25mg every 5 minutes. Max, 1,25mg, can also be administered directly into the uterine muscle.
- Intravenous administration should be avoided.
- Side effects: exacerbation of hypertension, nausea and vomiting. The drug is contraindicated in cases of hypertensive disorders of pregnancy.

PPH – UTERINE ATONY

- Carboprost: An analogue of methyl 15 PGF₂ alpha.
- Dose: 0,25mg every 15 minutes, max dose 2mg.
- Success rate in controlling uterine atonia: 84-94%.
- Side effects: nausea, vomiting, diarrhoea, headache, hypertension, bronchospasm.
- Contraindications: functional CVS anomalies, pulmonary, renal and hepatic disorders.

PPH-Clotting Disorders.

- In cases of less severe cases of Haemophilia A and Von Willebrands Disease.
- Administration: DESMOPRESSIN before surgery and for the treatment of severe cases of haemorrhage can normalise bleeding time.
- Its role in correcting congenital platelet disorders is still at the experimental stage.
- Specific deficiency of clotting factors are corrected accordingly.

Management of PPH

Specific management

- Ligature of uterine arteries:
 - ◆ Procedure first described by Walters in 1952.
 - ◆ Success rate 80-90%.(Walters 1952).
 - ◆ Largest series studied by O'Leary(265 cases),success rate 96%.(1995).
 - ◆ About 2-3cm of the myometrium should be included in the suture. A second suture might be placed if bleeding persist
- Ligature ovarian vessels: Unilateral or bilateral ligature.

Management of PPH

Specific management.

- Interventional radiography: Embolisation of uterine and internal iliac arteries.
 - ◆ Technique first described for the management of PPH in 1979 by Heaston et al, following persistent bleeding after hysterectomy for the treatment of PPH.
 - ◆ Inconvenience: Technique takes about 1-2 hours, it is sophisticated and requires highly qualified manpower. It is not usually available close to most obstetrical units.

Management of PPH. Specific management

- Refusal of blood transfusion and blood derivatives.
 - ◆ Experience obstetrical team with rigorous surveillance for any abnormal bleeding.
 - ◆ Counselling: Risk / Benefits.
 - ◆ Centres with experience in the management of PPH without transfusion.
 - ◆ Per-operative collection of blood and auto transfusion. A procedure usually accepted by Jehovah witnesses as long as the circuits are in continuity with the body.

Complications of PPH

- Immediate complications:
 - ◆ Anaemia.
 - ◆ Hypovolemic Shock.
 - ◆ Acute renal failure.
 - ◆ Acute Liver failure (hepato-renal syndrome)
 - ◆ Acute pulmonary oedema, consumption coagulopathy, transfusion reactions, (iatrogenic).

Complications of PPH

- Long term complications:
 - ◆ Infections: puerperal infections, HIV, Hepatitis etc.
 - ◆ Sheehan's syndrome (necrosis of anterior pituitary).
 - ◆ Chronic anaemia.
 - ◆ Infertility: Asherman's syndrome, Sheehan syndrome, tubal obstruction secondary to infections, post hysterectomy.
 - ◆ Chronic renal failure.
 - ◆ ABO/Rh incompatibility.

CONCLUSION

- Because PPH is an important cause of maternal morbidity and mortality it should be diagnosed early and properly managed by the the obstetrical team.
- A good referral system, transfusion services and well trained personnel should therefore be put in place if deaths associated with this complication after delivery are to be avoided.

THANKS FOR YOUR ATTENTION

DR. HALLE-EKANE.
Gynaecologist/Obstetrician.

