Case report
Postpartum Hemorrhage

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History

44-yr old healthy G2P1
170cm, 120kg, BMI 41
Regular 1st pregnancy and delivery at H40+2
Current pregnancy

SUA

Normal growth

External version H40+ due to variable presentation

Postdate labor induction at H41+5

Oxytocin

Amniotomy
I stage 11h
Epidural/Spinal/PCB/Pudendal-blockades
Strong back pain

II stage 10min
Newborn
3740g
Apgar 8/9/9
UA pH 7.08
III stage – Placental retention

Oxytocin (50IU/500mL: 200 mL/h)
Misoprostol 0,8mg p.r.
Bleeding 1.5 L
BP 98/48
Disorientation - Dizziness
Manual removal of placenta
Light abrasion
No tears/lacerations
Bleeding – Uterine atony
Uterine massage
Senior Consultant in OR
Balloon cathether-Sulprostone-infusion

Bleeding decreases

General Anesthesia
2nd IV-line, Crystalloids
RBC order

IV Oxytocin
Tranexamic acid
Prick-Hb 50
Emergency RBC
Minimal vaginal bleeding
Embolization team called
Senior gyn surgeon called

Hemodynamic instability
Delay in arterial cannulation
Lab tests lost – Delivery failure
Cardiac Anesthesiologist in OR

Arterial cannulation + CVK
pH 6.7, BE-28, Hb 60
K>7, gluc >25

RBC 3 units >> Hb 91
Internal bleeding?
Vascular surgeon called

LAPAROTOMY

OR

5L

Hemodynamic instability
Transfer to embolisation theatre impossible

Oulu University Hospital, Obstetrics & Gynecology
Hysterectomy
Large retroperitoneal hematoma
Laceration of right uterine artery
Evacuation of hematomas
Ligation of iliac artery branches

Hemodynamic instability
Crystalloids, Plasma Expanders
RBC, Thrombocytes
Frozen Plasma
Fibrinogen
Recombinant FVII (Novoseven)
Calcium

OR

Oulu University Hospital, Obstetrics & Gynecology
Minor bleeding
FlowSeal, TachoSeal
Abdominal drainage
Vaginal tamponade

8L
9L

Hb 101
Acid base status improves
Clycemic control improves

OR / ICU

Oulu University Hospital, Obstetrics & Gynecology
Minor bleeding from abdominal drainage

Embolization team called

10 hrs postoperation
Hb 65
Tachycardia, hypotension
RBC 2 units Hb 65-95
Extravasation from right uterine artery
Embolisation: Coils/Biodegradable microspheres
No bleeding: infrarenal abdominal aorta and left iliac artery
Postoperative day 1
Hemodynamic stability
NA-infusion $\downarrow$
Fluid overload - No significant pulmonary edema
Diuretics
Extubation
Adequate neurologic responses
Postoperative day 2
Repeated RBC infusions
Hb 80
Embolization
Left iliac artery – anterior branch
Left uterine artery
Right iliac artery - anterior branch
Right internal pudendalic art
Postoperative day 4
Normal fluid balance and other lab tests
Active mobilization
Breast feeding – lactation minimal
Psychiatric nurse

Postoperative day 10
Discharge
Postoperative day 14

Strong pain in left leg

Mild pain in right leg

- Peroneal paresis
- Sensoric paresis in inner thigh

Minor vaginal bleeding
CT-angiography
No active bleeding
Retroperitoneal hematomas
  Right 16 x 8 x 6 cm
  Left  4 x 5 x 4 cm
Femoral compression?
Medication:
Amitriptyline hydrochloride + Tramadol
Postoperative day 60

Mother
Muscular weakness in left leg
– Physiotherapy
No breast feeding

Child Normal outcome
Retroperitoneal Hematoma in Obstetrics

5/100000

Risk factors (vag delivery)
- Long stage I and II
- Forceps
- Delivery trauma

Table 1 Causes of retroperitoneal haematomas in obstetrics

<table>
<thead>
<tr>
<th>Category</th>
<th>Causes</th>
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<tbody>
<tr>
<td>Trauma or laceration</td>
<td>Blunt or penetrating injury to abdominal or pelvic organs, traumatic vaginal delivery [13, 14]</td>
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<tr>
<td>Vascular (aneurismal)</td>
<td>Splenic [5, 6, 9, 15–18], renal [3, 8, 19–27], aortic [28], iliac [29, 30], ovarian [31–34], uterine [35, 36], epigastric vessels [37]</td>
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<tr>
<td>Iatrogenic</td>
<td>Uterine rupture [38, 39], surgical evacuation of uterus [40, 41], inadequate haemostasis at caesarean section, manual removal of placenta [42], anticoagulation therapy [7, 43], pudendal block [44], post-hysterectomy for molar pregnancy [45]</td>
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<tr>
<td>Renal</td>
<td>Angiomyolipoma [10–12, 46–52], carcinoma [53, 54], cysts, connective tissue disorders [55], infections</td>
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<tr>
<td>Other rarer conditions</td>
<td>Idiopathic [2], eclampsia/preeclampsia [56–59], blood dyscrasias [60], prolonged labour [61], ruptured ectopic [62]</td>
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</tbody>
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Femoral nerve injury
Hemotoma compression
Nerve strech
Femoral neuropathy