S11en Mrs. Marie (30 years old) - Peripartal life-threatnig bleeding

MUNI | SIMU MED

You are a doctor at the university hospital. You are called to the gynecology operating theatre for uterus revision for placental residues after spontaneous delivery. Mrs. Marie is 30 years old lady, 70 kg, 160 cm, no comorbidities and no allergies, the delivery lasted about 8 hours, so far (1.5 hours after birth) the entire placenta has not been detached, blood loss estimated around 300 ml. The operation is performed in general anesthesia on a face mask, 10 ug of Sufentanil, 120 mg of Propofol was administered, the obstetrician begins the revision. There is an anesthesia nurse with you ane teh senior anesthesiologist is available on phone.

participants: 3x

Preanesthetic assessment:	**notes**
Weight: 70 kg / Height: 160 cm	
Dentition: solid / Mall: 2	
Last meal: 10 hours ago	
Previous general anesthesia: no compl.	
Premedication: sine	

Quick look: pale

Initial clinical status (simulation)		**Monitor setup**	
A	AW clear, ventilation via face mask is OK	AB	RR according BMV, SpO2 96%
B	no spontal ventilation, alveolar sound while manual venitlated		
C	cold fingers, CRT 4s, 1x PVC, peripheral pulsess weakened, central pulsess OK	C (ev. DE)	TK 85/40, HR 120/min (sinus r.), pupils 2-/2-, tempreature TT 36°C,
D	general anesthesia, GCS 3		
E	pale		

Expected actions:

1) ABCDE approach - securing AW to save hands

2) C: volume substitution, katecholamins, securing another PVC, agreement with the obstetrician on the cause and severity of bleeding - hypotonie dělohy - indikace

3) C: The cause of life-threating bleeding - uterus hypotony: Oxytocin 10 U/Duratocin 100ug i.v. and Methylergometrin 500ug i.v. (Prostin 250ug i.m.), Exacyl 1g

4) C: Massive transfusion protocol, blood samples, coagulation, fibrinogen administration

5) call for help + coordination and prioritization

Notes on the simulation process (simulation development):

1) **0:10** the obstetrician reports increased bleeding, the blood loss is about 1 l, the loss increases at a rate of 300 ml/min (see the suction on the screen)

Note: on the screen is shown the blood loss increase

2) **2:00-7:00** HR 160/min, BP 60/30, CRT 4s, central pulsess weakened

3) **7:00** The senior obstetrician calls asking for an anesthesiologist, finds out the patient's condition and proposed procedure. At the end he says that he has pre-arranged selective embolization at the angioline, so that the patient should be prepared for transport.

4) **Overdosing** of anesthetics at any time causes cardiac arrest with PEA (lecturer´s decision). The critical dosing limits: **Propofol over 175mg, Midazolam over 15mg, Sufentanil over 25ug.**

5) **in case of cardiac arrest**: ROSC after 1 minute ALS provide. Values as before cardiac arrest

Start of the simulation:

"voice of god"

1) specifics of perinatal life-threating bleeding - uterotonics, options of transfusion protocol

2) The importance of communication with the surgeon / in the team

This scenario is focused on the diagnosis and tratment of perinatal life-threating bleeding.

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S11en: Checklist for SIMU technician

Simulation room + basic setting: Operating theatre

	Pacient:	Simulator type:
☑	patient simulátor:	SimMan 3G
☐	standardized patient	
☐	other simulator:	
☐	figurant SIMU:	

setting

Patient monitor:	☑ SpO2	☐ EtCO2	☑ EKG	☑ NIBP	☐ IBP	☐ TOF	☐ Tem	☐ other:		
A:	☐ O2 nasal canule	☐ O2 mask	☐ O2 mask with reservoir				☐ hi-flow mask			
	☐ airway	☐ LM	☐ OTI	☐ TSC	☐ NIV		vel.:			
B:	O2 .... l/min									
	parameters of ventilation:									
C:	☑ PVC 1.	☐ PVC 2.	☐ CVC	☐ Dialisys can.	☐ ART	☐ urin. cat.	☐ other:			

Camouflage:

infusion of crystalloid

spread legs, gyneacological draping of the surgical field

	documentation	claricitation
☐	laboratory results in Simstation	
☐	laboratory results on the scene	
☑	multimedia in SimStation	blood loss video, perinatal life-threating bleeding algorithm
☐	other documentation on the scene	

within reach, ready beyond the basic setting

	infusion bags		
	anesthesiology trolley		
	towel		
	pressure cuff		
	defibrilator		
	sterile gown and gloves		

Date of revision: 24.1.2024

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S11 Participant 1 - Anesthesiologist
You are a doctor at the university hospital. You are called to the gynecology operating theatre for uterus revision for placental residues after spontaneous delivery. Mrs. Marie is 30 years old lady, 70 kg, 160 cm, no comorbidities and no allergies, the delivery lasted about 8 hours, so far (1.5 hours after birth) the entire placenta has not been detached, blood loss estimated around 300 ml. The operation is performed in general anesthesia on a face mask, 10 ug of Sufentanil, 120 mg of Propofol was administered, the obstetrician begins the revision. There is an anesthesia nurse with you ane teh senior anesthesiologist is available on phone.

S11 Participant 2 - Senior Anesthesiologist
Today you are supervising a younger colleague who is in the gynaecological theatre and is called for a revision of the uterine cavity.

S11 Participant 3
You are an obstetrician (gynecologist in training) performing a revision of the uterine cavity after spontaneous delivery for placental residues. The patient is Mrs. Marie, 30 years without comorbidities, the delivery lasted about 8 hours, so far (1.5 hours after birth) the entire placenta has not been detached, the blood loss was estimated around 300 ml. It bleeds heavily, you are trying to reduce blood loss with absorbent pads, but you will refuse to do revision of the abdomen, ligate the arteries nor carry out a hysterectomy. About these prosedures has to decide senior gyneacologist (who is on the phone).