Anaphylaxis/Local anaesthetic toxicity

Obstetric Simulation

Name:	Caroline Salter	**Observation at start**		**CRT:**	2s
D.O.B.	19/11 (31Y)	**RR:**	10-16	**Temp:**	37.2
Address:	(Insert local address)	**ETCO2:**	dropping	**BM:**	5.2
		Sats:	98%	**Weight:**	89kg
Hospital ID:	9443561288	**Heart Rate:**	84	**Allergy**	NKDA
Ward:	Labour ward	**BP:**	128/70		

Background to scenario	Specific set up
A patient is booked for a category II LSCS. The obstetric anaesthetist topped up the existing epidural and has just given antibiotics. The patient feels unwell and collapses. This scenario can be either anaphylaxis or local anaesthetic toxicity. The initial (actor) anaesthetist will be insistent on treating the 'wrong' diagnosis	(Pregnant) Mannequin on theatre table Cannulated, epidural connected Anaesthetic and drug chart Epidural top up drugs and antibiotics (local protocol) Surgical instruments Resus equipment, intralipid, anaphylaxis drugs
Required embedded faculty/actors	**Required participants**
Obstetric anaesthetist ODP Obstetric doctor (Scrub/midwife)	Anaesthetist – called to help (Other specialities can also be a part of the scenario)

Past Medical History

G1P0, F&W. No concerns in pregnancy
NKDA, no regular medication. Airway – no significant findings
Epidural inserted at maternal request, has been working well. Transferred to theatre for delayed second stage of labour.
There is pressure on the obstetric anaesthetist to begin as labour ward is busy. The obstetric doctor also requests antibiotics to be given early as patient tested positive for Group B streptococcus.

Drugs Home	Drugs Hospital
Nil reg, pregnancy vitamins only	Epidural top up – as per local protocol Antibiotics – for caesarean section, as local protocol

Brief to participants

You are part of the on call anaesthetic team. A call goes out for 'Anaesthetic emergency in obstetric theatre'

Scenario Direction

Stage 1 – if Anaphylaxis

A	Tongue swelling (Sees only if examines)
B	RR 25, sats dropping, ETCO2 trace – obstructive, high airway pressure, wheezing on auscultation
C	Tachycardic, hypotensive -> can go into cardiac arrest
DE	Felt 'unwell' and lost consciousness prior to participant arrival. Rash if examined The obstetric anaesthetist is certain this is local anaesthetic toxicity as the patient had no allergies and lost consciousness soon after giving local anaesthetic, unsure if it was through cannula or epidural because they were rushed.
Rx	Assessment of situation and role allocation, leadership vs team role Balancing potential causes, managing team member certain it is one diagnosis/infectious certainty Using Association of Anaesthetists Quick reference handbook Treatment of symptoms and cause

Stage 1 – if local anaesthetic toxicity

A	Snoring
B	RR 10, sats dropping, chest clear
C	Tachycardic with ectopics (if possible to simulate), can go into cardiac arrest
DE	Felt 'unwell' and lost consciousness prior to participant arrival. The obstetric anaesthetist is certain this is anaphylaxis because they collapsed soon after antibiotic injection Obstetric anaesthetist – treat (unless stopped) for anaphylaxis
Rx	Assessment of situation and role allocation, leadership vs team role Balancing potential causes, managing team member certain it is one diagnosis/infectious certainty Using Association of Anaesthetists Quick reference handbook Treatment of symptoms and cause – including intralipid

Stage 2 – Resolution, follow up

A	Own or intubated – depending on participant's actions
B	RR 12 sats 98%
C	HR 110 BP 90/45
DE	GCS – depending on participant's actions. Can recover after cardiac arrest, or remain intubated for post operative destination to be decided Still does need LSCS – obstetric team can support in decision making
Rx	MDT decision making and balancing risks and benefits - re operation and post op destination Appropriate calling for help Debrief of junior colleague who faced a challenging scenario

Guidelines

AAGBI guideline on local anaesthetic toxicity
Association of Anaesthetists QRH handbook
BJA - Linsey E. Christie, MBChB (Hons) BSc (Hons) MRCP FRCA, John Picard, BA MA DEA BM BCh FRCA, Guy L. Weinberg, MD, Local anaesthetic systemic toxicity, BJA Education, Volume 15, Issue 3, June 2015, Pages 136–142, https://doi.org/10.1093/bjaceaccp/mku027
Resuscitation Council UK, Anaphylaxis

Guidance for Patient Role

Patient is unconscious from the start of the scenario

Guidance for Obstetric anaesthetist	Guidance for Obstetric doctor
Certain of the 'wrong' diagnosis, insistent on treating this Only called for help for a second pair of hands If participants consider alternative diagnoses, be open to these	Keen to start as labour ward is busy Rush any decisions
Guidance for Other theatre roles	
Competent but do not anticipate next actions, do what is requested Be supportive depending on participant's stage of training If participants do not think of alternative diagnoses, highlight symptoms/signs that might not have been picked up or suggest correct diagnosis without letting scenario progress too long down the 'wrong' path	

Session Objectives	
Clinical	Treatment of anaphylaxis/local anaesthetic toxicity
Non-technical skills	
Teamworking	Coordinating activities when new to situation, exchanging important information, using authority if safety risk is suspected
Task management	Identifying roles and allocating, prioritising treatment options, utilising resources
Situational awareness	Gathering information on arrival, recognising potential causes
Decision making	Balancing risks and selecting treatment options, continuous re-evaluation