Paediatric anaphylaxis/local anaesthetic toxicity

Paediatric Simulation

Name:	P Turner	**Observation at start**		**CRT:**	2s
D.O.B.	17/11 (age of mannequin used)	**RR:**	Ventilated	**Temp:**	36.4
Address:	(Insert local address)	**ETCO2:**	Low/normal	**BM:**	6.3
		Sats:	92%	**Weight:**	Weight for age
Hospital ID:	445 952 5141	**Heart Rate:**	High for age	**Allergy**	NKDA
Ward:	Orthopaedic theatre	**BP:**	Stable		

Background to scenario	Specific set up
A child undergoing an ankle ORIF under GA and popliteal block has an episode of cardiovascular instability (either anaphylaxis to skin prep by the surgeon or local anaesthetic toxicity)	Paediatric mannequin, cannulated Ventilated on ETT A leg in a cast Anaesthetic chart and remaining induction drugs Surgical prep tray open Anaphylaxis/LAST treatment available (out of sight)
Required embedded faculty/actors	**Required participants**
Anaesthetist Surgeon ODP +/- theatre staff	Anaesthetic on call team (Theatre staff/ODP in MDT sim)

Past Medical History

Asthma, usually well controlled (salbutamol only, rarely used), no hospital or ICU admission
Pregnancy, delivery and development all normal. Vaccinations up to date.
No previous anaesthetics, no airway concerns
Has just had an IV general anaesthetic and popliteal blocks by consultant anaesthetist, transferred into theatre and set on the ventilator.

Drugs Home	Drugs Hospital
Salbutamol (rarely used)	Paracetamol and ibuprofen (pre med if used) Induction drugs of choice

Brief to participants

You are the on call anaesthetic team, you hear an alert for anaesthetic assistance to theatre

Scenario Direction

Stage 1, 0– 5 minutes (If anaphylaxis)	
A	Intubated
B	Ventilated, high pressure alarms, wheeze on auscultation (only if listened)
C	HR high, BP dropping, (can arrest if adrenaline not administered in timely manner)
DE	Anaesthetised on volatile/TIVA Surgeon has just prepped surgical site with chlorhexidine but not communicated this Rash under chlorhex prep- difficult to see Anaesthetist is adamant this is local anaesthetic toxicity as anaesthetic drugs given a little while ago and blocks just performed
Rx	Assessment of situation, gaining handover, role allocation and declaration of event Identification of critical incident, calling for help Identification of cause, administration of treatment Management of anaesthetic in critical incident Discussions of ongoing care, discharge destination and investigations
Stage 2, 5–10 minutes (if local anaesthetic toxicity)	
A	Intubated
B	Ventilated
C	Hypotension, bradycardia/tachyarrhythmias -> (can arrest if not identified)
DE	Anaesthetised on volatile/TIVA The anaesthetist is adamant this is anaphylaxis as multiple drugs administered prior to transfer into theatre and will treat unless stopped
Rx	Assessment of situation, gaining handover, role allocation and declaration of event Identification of critical incident, calling for help Identification of cause, administration of treatment Management of anaesthetic in critical incident Discussions of ongoing care, discharge destination and investigations
Stage 3, 10– 15 minutes Recovery	
AB	Intubated and ventilated, airway pressures normalised
C	Cardiovascular parameters normalised
DE	Anaesthetised with volatile/TIVA
Rx	Discussions with MDT around proceeding with surgery – Ankle ORIF, planning for ongoing care Discussion around investigations and ongoing management – allergy testing/MHRA notification Discussion around updating parents Discussion about escalating concerns about obstructive consultant

Guidelines

Emergency treatment of anaphylaxis
Management of severe local anaesthetic toxicity
Association of Anaesthetists QRH handbook

Guidance for Patient Role

Opening lines/questions/cues/key responses	Relevant HPC / PMH
Anaesthetised	
Concerns	**Actions**

Guidance for ODP role	Guidance for theatre staff/surgeons
Opening lines/questions/cues/responses/Concerns Competent, but does not anticipate needs 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	Conversing/noisy unless critical incident declared Competent in own role 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
Guidance for Role e.g. ITU/Anaesthetic Senior	**Guidance for other role**
Expectations/actions Convinced of the wrong diagnosis and act on this If participants consider alternative diagnoses, be open to these	

Session Objectives	
Clinical	Management of local anaesthetic toxicity Management of Anaphylaxis
Non-technical skills	
Teamworking	Coordinating team activities, exchange of information with team, assertiveness
Task management	Planning, prioritising, following guidelines, identifying and utilising resources
Situational awareness	Gathering information, recognising and understanding critical incident
Decision making	Identifying options and balancing to make decisions, continuous re-evaluation