COMMON STRUCTURE FOR HIGH FIDELITY SIMULATION SCENARIO

SCENARIO TITLE

Anaphylactic shock with oedema of glottis

SCENARIO OVERVIEW

HEALTHCARE SERVICE:

TARGET GROUP¹: students in general medicine

ESTIMATED SCENARIO DURATION: 30 - 45 minutes

SCENARIO SUMMARY²:

Man, 35, brought by his family to the emergency service. According to them, one hour earlier he was administered an intramuscular penicillin injection for a cutaneous infectious pathology. A few minutes later, the patient started developing rashes, oedemas on the lips and eyelids, dyspnoea with wheezing and dizziness.

EDUCATIONAL OBJECTIVES

GENERAL OBJECTIVES:

- The participants should be able to work in team, to assign roles and to appoint a team leader.
- To identify the seriousness of the situation and establish the priority of actions to perform.
- To be able to perform several actions at the same time.
- To know and use the necessary material for actions required by this scenario.

SCENARIO-SPECIFIC OBJECTIVES:

- To know the manifestations of anaphylaxis and be able to tell the difference between a light reaction and an anaphylactic shock.
- To know the administering ways and required doses to administer adrenalin during anaphylactic shock.
- To know and handle the necessary material during specific emergency actions required by this scenario.
- To be able to perform necessary actions: monitoring, oxygen therapy, venous catheter, tracheal intubation, tracheal intubation in challenging conditions, cricothyrotomy through Seldinger technique.

² Scenario key words





¹ Skill level and number of participants

- To recognise complications that could arise during anaphylactic shock.

PARTICIPANTS' ROLE

STUDENTS	Medicine students	3-4	
PROFESSIONALS			
TRAINERS ³	Doctors	1-2	 Present the scenario Present the different parts of the scenario Control the dummy settings Correct, gradually and during debriefing

EQUIPMENT LIST⁴

Medical supplies:

- Airway: non-rebreather mask, oropharyngeal airway of several dimensions, nasopharyngeal airway of several dimensions (Robertazzi), laryngoscope with several blades (Macintosh, Miller, MacCoy, airtraq), video laryngoscope, intubation tubes of several dimensions, mandrel for tracheal intubation tube, spark plug, sterile gel, Magill forceps, fixation for tracheal intubation tube, 20 ml syringe, sterile kits, mobile aspirator with aspiration tubes: Yankauer and flexible, of several dimensions.

- Breathing: Ambu bag with oxygen reservoir, masks of different dimensions for the Ambu bag, antibacterial filter, mechanical fan with nozzle, oxygen bottle/vial.

- Circulation: peripheral venous catheters of various dimensions, catheter fixation, nonsterile compresses, tourniquet, disinfectant, non-sterile gloves, perfusion kit, drip solution vial. ECG screen with standard monitoring wires, pulse oximeter, blood pressure monitor, thermometer, capnography. AED with patches and paddles. Stethoscope.

- Miscellaneous: Syringes of several dimensions, needles, urinary catheter, collecting bags, adhesive electrodes for dummy monitoring, dummy for difficult intubation, ECG device with 12 derivations, automated syringe.

Medicines and solutes:

- Drip solution vials: NaCl, Ringer 1, Voluven
- Adrenalin, HHC, Methylprednisolone, Chlorphenamine, Ranitidine, Noradrenaline
- Propofol, Etomidate, Ketamine, Fentanyl, Xylene, Suxamethonium chloride
- Miofilin, Salbutamol, magnesium sulfate, Ephedrine, Atropine

³ Control of dummy setting / Debriefing/ Dummy voice/ Facilitator/ Disruptive element/ external stakeholder (phone speaker) ⁴ Prefer Check-list for quick check-up





Documents: monitoring sheet, patient's medical documents

Accessories: work bench, stretcher

Environment: bed in emergency / intensive care, with all devices mentioned above.

SCENARIO PREPARATION

SIMULATION TYPE:

DUMMY TYPE:

SIMULATOR PREPARATION:

- Setting: corresponding to initial state (cf. table)
- Positioning: prepare material and dummy, 10-15 minutes
- Accessories:

ENVIRONMENT PREPARATION:

- prepare the dummy
- prepare monitoring devices
- prepare devices for respiratory tracts: oxygen, suction, Ambu bag, mechanical fan, intubation material, difficult intubation material, material for surgical approach of respiratory tracts

PREPARATION OF ADDITIONAL EXAMINATIONS:

- patient's medical history
- arterial blood gas test

PREPARATION OF STUDENTS/LEARNERS: professional outfit

- Introduce the room in which the scenario takes place
- Safety principles during simulation: defibrillator, needles
- Present simulation possibilities
- Present the available material
- Briefly describe the scenario evolution (the fact there are several possibilities of patient evolution, depending on therapeutic decisions)

BRIEFING

TIME:

SITUATION: Man, 35, brought by his family to the emergency service. According to them, one hour earlier he was administered an intramuscular penicillin injection for a cutaneous infectious pathology. A few minutes later, the patient started developing rashes, oedemas on the lips and eyelids, dyspnoea and dizziness.

DOCUMENTS: no known pathology





PATIENT DATA⁵

Age: 35

Surname: Constantin Name: Alexandru Date of birth: 2-7-1982 Allergies: no known allergies History: no known pathologies Medical history: no known pathologies Surgeries: no known pathologies Personal treatment: no home treatment

Weight: 80 Height: 1.7 Gender: M

FRAMES OF REFERENCE / EXPERTS RECOMMENDATIONS

DAS - Difficult Airway Society - DAS Difficult intubation guidelines 2015

ERC - European resuscitation council guidelines for resuscitation 2015. Section 4. Cardiac arrest in special circumstances

Cardiac arrest in special circumstances

SFAR - Société Française d'Anesthésie et de Réanimation

BENUMOF AND HAGBERG'S AIRWAY MANAGEMENT, 2013, Saunders, Elsevier Inc. Clinical Anesthesia, 8th ed., Barash P et al., Wolters Kluwer, 2017.

ERC European resuscitation council guidelines for resuscitation 2015.Section 3.Adultadvanced life support.

DEBRIEFING IDEAS

- Recognise the seriousness of anaphylactic manifestations
- Establish priority of actions
- Establish priority of medication
- Know ways to administer adrenalin, doses and undesirable manifestations
- Good communication within the team
- Importance to address the respiratory tract as soon as possible
- Understand the fact that if the respiratory tract cannot be addressed, cardiac arrest can happen fast, due to severe hypoxemia
- Recognise and treat bronchospasm
- Collect blood markers to inform the allergic reaction

SCENARIO PROGRESS

Monitor setting	Patient dummy	Students' interventions (what we would like to see)	Messages	
Beginning time of scenario:				

⁵ Care record layout or if not necessary to the scenario, voice memo for the trainer





Initial state:Symptons, voicePatient evaluation following ABCDE methodRecognise anaphylactic shockAP: 90/60- nervous patient, with oedemas on eyelids and lips. brief rashes appeared on upper limbs, start to appear abdominal cramps- Patient evaluation following ABCDE method- Recognise anaphylactic shockSpO: 92%- brief rashes appeared on upper limbs, start to appear abdominal cramps- Call rescue services (intensive care doctors, emergency)- God cooperation within the teamClinical signs: - eyes: open spontaneously - puplits symmetrical, intermediary, reactive - Respiratory tracts: (dysphonia - pulmonary auscultation: sibilant rhonchi- Nanyhylactic shock- Recognise anaphylactic shockInitial state: spO: 92%- matifestations appeared about 5 minutes after injection- Mathematics shock call rescue services (intensive care doctors, emergency)- Simultaneous actions: - Basic monitoring- Share tasks - Constant patient monitoringClinical signs: - gopilis symmetrical, intermediary, reactive - pulmonary auscultation: sibilant rhonchi- Mathematics offic - Mathematics and the splaneous - Noultine resuscitation (liquid bolus 20ml/kg – Ringer Lactate)- Know intubation adrenaline im (in the thigh)- Value resuscitation (liquid bolus 20ml/kg – Ringer Lactate)- Mathematics and the advanced approach to respiratory tract- Discussion about adrenaline in (and the thigh)- volume resuscitation (liquid bolus 20ml/kg – Ringer Lactate)- Noult action - Noult the advanced approach to respiratory tract </th <th>Initial state:</th> <th>Symptome voice</th> <th>Dationt ovaluation following</th> <th>Decognice anonhylactic</th>	Initial state:	Symptome voice	Dationt ovaluation following	Decognice anonhylactic
AP: 90/60oedemas on eyelids and lips. + brief rashes appeared on upper limbs, start to appear on the rst of the body - abdominal cramps- Anaphylactic shock diagnosis- briefly discuss physiopathological mechanisms (intensive care doctors, emergency)- briefly discuss physiopathological mechanisms (cooperation within the teamECG curve: sinus tachycardia- manifestations appeared about 5 minutes after intramuscular penicillin injection- Manphylactic shock diagnosis- Basic monitoring - Constant patient monitoring- Simultaneous actions: - Basic monitoring - Venous catheter-at adrenalin nebulisation for stridor/mask with reservoir - FiO2 as near as possible to 100% - Administer 0.5mg adrenaline im (in the thigh)- Manphylactic shock diagnosis- Briefly discuss physiopathological mechanisms (Cooperation within the teamPupils: symmetrical, intermediary, reactive - pulmoary auscultation: sibilant rhonchi- manifestations intermediary, reactive - pupils: - purpoary auscultation: sibilant rhonchi- Manphylactic shock diagnosis- Basic monitoring - Oxygen therapy - adrenalin nebulisation for stridor/mask with - volume resuscitation (liquid bolus 20m//kg - Ringer Lactate)- Brepare adrenaline dilution for I vadministration (1 vial with 9ml NaCl 0.9% - 1:10.000 - 100µg/ml)- Days - Discussion about advanced approach to respiratory tract - Porspiratory tract - Possibly prepare material to- briefly discuss - Bosicus - Constant patient - monitoring - Constant patient - revaluation - Nource - FiO2 as near - Ringer Lactate)- briefly discuss - Simultaneous actions	minual state:		•	• • • •
HR: 120 - brief rashes appeared on upper limbs, start to appear on the rst of the body - diagnosis physiopathological mechanisms SpO ₂ : 92% - abdominal cramps - Call rescue services - God cooperation ECG curve: sinus tachycardia - manifestations appeared about 5 minutes after intramuscular penicillin injection - Basic monitoring - Simultaneous actions: - Share tasks - eyes: open spontaneously - pupils: symmetrical, intermediary, reactive - Respiratory tracts: opulmonary ausculation: sibilant rhonchi - Mainister 0.5mg adrenaline im (in the thigh) - Volume resuscitation (liquid bolus 20ml/kg – Ringer Lactate) - Know intubation and difficult initiation (liquid bolus 20ml/kg – Ringer Lactate) P Prepare adrenaline dilution for IV administer on 20.9% - 11:10.000 - 100.9% - 1:10.000 - 100.9% - 1:10.000 - 100.9% - 1:10.000 - 100.9% - 1:10.000 - 100.9% - 1:10.000 - 100.9% - 1:10.000 - 100.9% - 1:10.000 - 100.9% - 1:10.000 - 100.9% - 1:10.000 - 100.9% - 1:10.000 - 100.9% - 1:10.000 - 100.9% - 1:10.000 - 100.9% - 1:10.000 - 100.9% - 1:10.000 - 100.9% - 1:10.000 - 100.9% - 1:100.00 - 100.9% - 1:100		· · · · ·		
RR: 30 SpO2: 92% upper limbs, start to appear on the rst of the body - Call rescue services (intensive care doctors, emergency) - Good cooperation within the team CCG curve: sinus tachycardia - manifestations appeared about 5 minutes after intramuscular penicillin injection - Basic monitoring - Constant patient monitoring Clinical signs: - eyes: open spontaneously - pupils: symmetrical, intermediary, reactive - pulmonary auscultation: sibiliant rhonchi - Figure 1 - Regular patient monitoring - Regular patient monitoring - Mainfestations appeared about 5 minutes after intramuscular penicillin injection - Oxygen therapy – adrenalin nebulisation for stridor/mask with reservoir – FiO2 as near as possible to 100% - - Know intubation and difficult intubation material - pulmonary auscultation: sibiliant rhonchi - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - <t< td=""><td></td><td></td><td></td><td>,</td></t<>				,
SpO2: 92%on the rst of the body - abdominal crampsGood cooperation within the teamECG curve: sinus tachycardia- manifestations appeared about 5 minutes after intramuscular pencillin injection- Simultaneous actions: - Basic monitoring- Good cooperation within the teamClinical signs: - eyes: open spontaneously - pupils: - Respiratory tracts: dysphonia - pulmonary auscultation: sibilant rhonchi- manifestations appeared about 5 minutes after intramuscular pencillin injection- Menore can be				
ECG curve: sinus tachycardia- abdominal cramps manifestations appeared about 5 minutes after intramuscular penicillin ingection- emergency)- within the teamClinical signs: - eyes: open spontaneously - pupils: symmetrical, intermediary, reactive- intermediary, reservoir - FiO2 as near as possible to 100% - Administer 0.5mg auscultation: sibilant rhonchi- within the team - Share tasks- Constant patient monitoring- pupils: symmetrical, intermediary, reactive - pupins- Oxygen therapy - adrenalin nebulisation for stridor/mask with reservoir - FiO2 as near as possible to 100% - Administer 0.5mg adrenaline im (in the thigh)- Know intubation and difficult intubation material- pulmonary auscultation: sibilant rhonchi- intermediary, - pulmonary auscultation: ablight - pulmonary auscultation: sibilant rhonchi- intermediary, - wolume resuscitation 				
ECG curve: sinus tachycardia - manifestations appeared about 5 minutes after intramuscular penicillin injection - Simultaneous actions: Basic monitoring - Share tasks Clinical signs: - eyes: open spontaneously - pupils: symmetrical, intermediary, reactive - Respiratory tracts: outmonary auscultation: sibilant rhonchi - Manifestations appeared about 5 minutes after inframuscular penicillin injection - Simultaneous actions: Basic monitoring - Share tasks - eyes: open sypontaneously - pupils: symmetrical, intermediary, reactive - Respiratory tracts: outmonary auscultation: sibilant rhonchi - Manifestations appeared about 5 minutes after injection - Simultaneous actions: Basic monitoring - Share tasks - eyes: open sypontaneously - pupils: symmetrical, intermediary, reactive - Manifestations appeared adrenaline nebulisation for stridor/mask with reservoir - FIO2 as near as possible to 100% - Administer 0.5mg adrenaline im (in the thigh) - Discussion about adrenaline doses, effects, administering ways - pulmonary auscultation: sibilant rhonchi - Volume resuscitation for IV administration (1 vial with 9ml NaCl 0.9% - 1:10.000 - 100µg/ml) - Take into account the advanced approach to respiratory tract - Possibly prepare material to	SpO ₂ : 92%			•
tachycardiaabout 5 minutes after intramuscular penicillin injection- Basic monitoring · Venous catheter-at least 2 large PVC 14-18 G- Constant patient monitoringclinical signs: - eyes: open spontaneously - pupils: symmetrical, intermediary, reactive - Respiratory tracts: dysphonia - pulmonary auscultation: sibilant rhonchi- Basic monitoring · Venous catheter-at least 2 large PVC 14-18 G- Constant patient monitoring- Oxygen therapy - adrenalin nebulisation for stridor/mask with reservoir - FiO2 as near as possible to 100% - Administer 0.5mg adrenaline im (in the thigh)- Discussion about adrenaline doses, effects, administering ways- pulmonary auscultation: sibilant rhonchi- Venous catheter-at (liquid bolus 20ml/kg - Ringer Lactate)- Discussion adrenaline dilution for IV administration (1 vial with 9ml NaCl 0.9% - 1:10.000 - 100µg/ml)- Manual advanced approach to respiratory tract - Possibly prepare material to				
Clinical signs: - eyes: open spontaneously - pupils: symmetrical, intermediary, reactive - Respiratory tracts: dysphonia - pulmonary auscultation: sibilant rhonchi- Venous cathete-at least 2 large PVC 14-18 G- Regular patient reevaluation adrenalin nebulisation for stridor/mask with reservoir - FiO2 as near as possible to 100% - Administer 0.5mg adrenaline im (in the thigh)- Nonchi- Dumonary auscultation: sibilant rhonchi- Prepare adrenaline dilution for IV administration (1 vial with 9ml NaCl 0.9% - 1:10.000 - 100µg/ml)- Prespare material to- Possibly prepare material- Take into account the advanced approach to respiratory tract- Possibly prepare material to				
Clinical signs: - eyes: open spontaneously - pupils: symmetrical, intermediary, reactive - Respiratory tracts: dysphonia - pulmonary auscultation: sibilant rhonchiinjectionleast 2 large PVC 14-18 G-Regular patient reevaluation0Symmetrical, intermediary, reactive - Respiratory tracts: dysphonia - pulmonary auscultation: sibilant rhonchi-Now intubation and difficult intubation material-Know intubation and difficult intubation material0-Oxygen therapy – a drenalin nebulisation for stridor/mask with reservoir - FIO2 as near a spossible to 100% - Administer 0.5mg adrenaline im (in the thigh)-Discussion about adrenaline doses, effects, administering ways-Noulme resuscitation (liquid bolus 20ml/kg – Ringer Lactate)-Prepare adrenaline dilution for IV administration (1 vial with 9ml NaCl 0.9% - 11:10.000 – 100µg/ml)Take into account the advanced approach to respiratory tract - Possibly prepare material to-	tachycardia			•
- eyes: open G reevaluation spontaneously - Oxygen therapy – Adrenalin nebulisation - pupils: - openation for stridor/mask with intermediary, reservoir – FiO2 as near Biscussion about reactive - Administer 0.5mg adrenaline im (in the - pulmonary adrenaline im (in the thigh) auscultation: sibilant - volume resuscitation effects, administering rhonchi Prepare adrenaline dilution for IV administration (1 vial with 9ml NaCl 0.9% - 1:10.000 – 100µg/ml) Take into account the advanced approach to respiratory tract Possibly prepare material to				5
spontaneously - pupils: symmetrical, intermediary, reactive - Respiratory tracts: dysphonia - pulmonary auscultation: sibilant rhonchi- Oxygen therapy – adrenalin nebulisation for stridor/mask with reservoir – FiO2 as near as possible to 100% - Administer 0.5mg adrenaline im (in the thigh)- Know intubation and difficult intubation material- Respiratory tracts: dysphonia - pulmonary auscultation: sibilant rhonchi- Administer 0.5mg adrenaline im (in the thigh)- Discussion about adrenaline doses, effects, administering ways- Purperse adrenaline dilution for IV administration (1 vial with 9ml Nacl 0.9% - 1:10.000 – 100µg/ml)- Prepare adrenaline dilution for IV administration (1 vial with 9ml Nacl 0.9% - 1:10.000 – 100µg/ml)- Take into account the advanced approach to respiratory tract - Possibly prepare material to- Possibly prepare material to	8	injection	Ū.	
 - pupils: - pupils: - pupils: - pupils: - pupils: - adrenalin nebulisation for stridor/mask with reservoir – FiO2 as near as possible to 100% - Respiratory tracts: - Administer 0.5mg adrenaline im (in the thigh) - volume resuscitation (liquid bolus 20ml/kg – Ringer Lactate) - Prepare adrenaline dilution for IV administration (1 vial with 9ml NaCl 0.9% - 1:10.000 – 100µg/ml) - Take into account the advanced approach to respiratory tract - Possibly prepare material to 			-	
symmetrical, intermediary, reactive - Respiratory tracts: dysphonia - pulmonary auscultation: sibilant rhonchi				
intermediary, reactive - Respiratory tracts: dysphonia - pulmonary auscultation: sibilant rhonchi				
reactive - Respiratory tracts: dysphonia - pulmonary auscultation: sibilant rhonchi	5			
 Respiratory tracts: dysphonia pulmonary auscultation: sibilant volume resuscitation (liquid bolus 20ml/kg – Ringer Lactate) Prepare adrenaline dilution for IV administration (1 vial with 9ml NaCl 0.9% - 1:10.000 – 100µg/ml) Take into account the advanced approach to respiratory tract Possibly prepare material to 	5			
dysphonia - pulmonary auscultation: sibilant rhonchi			•	,
- pulmonary auscultation: sibilant rhonchi - volume resuscitation (liquid bolus 20ml/kg – Ringer Lactate) - Prepare adrenaline dilution for IV administration (1 vial with 9ml NaCl 0.9% - 1:10.000 – 100µg/ml) - Take into account the advanced approach to respiratory tract - Possibly prepare material to			5	effects, administering
auscultation: sibilant rhonchi - volume resuscitation (liquid bolus 20ml/kg – Ringer Lactate) - Prepare adrenaline dilution for IV administration (1 vial with 9ml NaCl 0.9% - 1:10.000 – 100µg/ml) - Take into account the advanced approach to respiratory tract - Possibly prepare material to	5 1		•	ways
rhonchi (liquid bolus 20ml/kg – Ringer Lactate) - Prepare adrenaline dilution for IV administration (1 vial with 9ml NaCl 0.9% - 1:10.000 – 100µg/ml) - Take into account the advanced approach to respiratory tract - Possibly prepare material to			5,	
Ringer Lactate) Prepare adrenaline dilution for IV administration (1 vial with 9ml NaCl 0.9% - 1:10.000 – 100µg/ml) Take into account the advanced approach to respiratory tract Possibly prepare material to			 volume resuscitation 	
 Prepare adrenaline dilution for IV administration (1 vial with 9ml NaCl 0.9% - 1:10.000 - 100µg/ml) Take into account the advanced approach to respiratory tract Possibly prepare material to 	rhonchi		(liquid bolus 20ml/kg –	
for IV administration (1 vial with 9ml NaCl 0.9% - 1:10.000 – 100µg/ml) Take into account the advanced approach to respiratory tract Possibly prepare material to			Ringer Lactate)	
with 9ml NaCl 0.9% - 1:10.000 – 100µg/ml) - Take into account the advanced approach to respiratory tract - Possibly prepare material to			 Prepare adrenaline dilution 	
1:10.000 – 100µg/ml) - Take into account the advanced approach to respiratory tract - Possibly prepare material to			for IV administration (1 vial	
 Take into account the advanced approach to respiratory tract Possibly prepare material to 			with 9ml NaCl 0.9% -	
advanced approach to respiratory tract - Possibly prepare material to			1:10.000 – 100µg/ml)	
respiratory tract - Possibly prepare material to			- Take into account the	
- Possibly prepare material to			advanced approach to	
			respiratory tract	
			Possibly prepare material to	





Charles O			Freedor to the table of the
State 2:	- the patient gradually calms	- ABCDE reevaluation	- Emphasise that the patient
	down - Muscle tonus starts to	 Decide to administer IV adrenalin – dilution 	shows increasingly severe
AP: 80/40	decrease		respiratory manifestations,
HR: 130 RR: 35	ueciease	1:10.000, administer doses	despite adrenaline IV
	- increased dysphonia, stridor	of 50g each, repeat after a few minutes depending on	- Create difficult intubation
SpO ₂ :	and wheezing appear	the effect and patient's	scenario due to glottis
ECG curve: sinus	and wheezing appear	tolerance.	oedema
tachycardia	- increased oedema on	- Closely search vital signs:	Oedellia
lacifycarula	cephalic extremities	AP, ECG, SpO2.	- Learners can only intubate
Clinical signs:	cephane extremities	- Administer 2 nd liquid bolus	if they use spark plug.
- eyes ⁶	- sibilant rhonchi still present	of 20ml/kg	- Show and make
- pupils ⁷	sibilarie monerni sem presene	- If participants decide to	demonstration on how to
- pulmonary		approach respiratory	use spark plug correctly.
auscultation		tract (state 2)	use spark plag correctly.
adoutation		- First prepare all	- If tracheal intubation is not
		necessary material,	induced by spark plug or if
		including for difficult	does not use spark plug,
		tracheal intubation and	the scenario moves to
		surgical approach of	State 3; if they use spark
		respiratory tract	plug and manage to
		- rapid sequence tracheal	intubate, the scenario
		intubation: medication:	moves to State 4 .
		ketamine – first choice	- Discuss with participants
		2mg/kg, Lysthenon	about line 2 and 3
		1.5mg/kg. +/- Xylene.	medication during an
		- Sellick manoeuvre	anaphylactic shock and
		 Prepare emergency 	about adrenaline doses in
		medication: atropine,	continuous administering.
		ephedrine, adrenaline.	Possibility to administer
		 If first attempt at 	also noradrenaline.
		tracheal intubation fails,	- Take into account the use
		ventilate mask and bag	of central venous catheter.
		 If participants choose 	
		spark plug, they	
		succeed in intubating	
		with a 6.5mm tube.	
		- Not to stop administering	
		adrenaline, continue volume	
		filling while monitoring	
		hemodynamic response.	
		- Take into account line 2.3	
		medication: anti-H1, anti-	
		H2, corticoid: HHC	
		200mg/IV /	
		Methylprednisolone 125	
		mg/IV	
		- Continuous Ketofol	
		sedation.	

⁶ Open, half-closed, closed ⁷ Miosis, mydriasis, anisocoria, normal-reactive





State 3: AP: 90/50 HR: 125 RR: 10-15 SpO ₂ : 85% ECG curve: Clinical signs: - eyes - pupils - pulmonary auscultation	 Patient in mental fog Important respiratory effort Cannot make noises Beginning of perioral cyanosis Extended sibilant rhonchi Increasingly strong perspiration of teguments, piloerection. 	 ABCDE reevaluation Decision to administer a new dose of adrenaline Monitor vital signs: AP, ECG, SpO2 If participants decide to approach the respiratory tract: Prepare beforehand all necessary material, including for difficult tracheal intubation and for the surgical approach of the respiratory tract 	 Emphasise that the patient's consciousness is deteriorating Obvious respiratory effort, with use of accessory muscles and Diaphragmatic paradox If participants do not first mention the surgical approach to the respiratory tract, go to State 5 If participants succeed the approach to respiratory tract, go to State 4 State 2 continues with the part about State 3 respiratory tract (if participants do not succeed at State 2) Show the manoeuvres of the surgical approach. Discuss with participants about lines 2 and 3 medication during anaphylactic shock and about adrenaline doses in continuous administer also noradrenaline. Take into account the use of central venous catheter.
State 4: AP: 110/60 HR: 80 RR: 13 SpO ₂ : 91% ECG curve: sinus rhythm Clinical signs: - eyes - pupils - pulmonary auscultation	 Patient sedated Respiratory tract with prosthesis Teguments start to regain colours Sibilant rhonchi increasingly strong and present in the whole thorax. 	After tracheal intubation and when the fan is connected, the latter makes alarm of increased pressure and minute volume. - Recognise bronchospasm - Administer bronchodilator: - Salbutamol by nebulisation - Magnesium sulfate IV 2g - Miofilin - Ipratropium bromide - Ketamin - Improved respiratory condition after bronchodilatator and increased SpO ₂ - End of scenario for those who followed 1, 2, 3, 4, 5. - Collect arterial astrup - Collect blood sample for tryptase dose	 recognise bronchospasm as a manifestation of anaphylaxis Method to treat bronchospasm Discuss medication administered during bronchospasm Three doses of tryptase: asap, 1-2hours, 24 hours or during convalescence Arterial astrup indicates combined respiratory and lactic acidosis. Hypokalaemia.





State 5: AP: 0 HR: 50 RR: 0 SpO ₂ : not apparent ECG curve: sinus rhythm Clinical signs: - eyes - pupils - pulmonary auscultation	 Cardiac arrest with pulseless electric activity Absence of central pulse Respiratory silence 	 Start resuscitation manoeuvres, following ALS 2015 protocol CPR 30:2 If participants mentions the surgical approach of respiratory tract, they can make it Administer 1mg IV adrenaline every 3-5 minutes Reevaluate heart rate every 2 min. If surgical approach done, patient leaves AEP in sinus rhythm, AP: 160/80 mmHg, 	If the participants have not first mentioned the surgical approach of the respiratory tract, after several unsuccessful attempts to intubate, the patient enters in cardiac arrest by AEP due to hypoxia.
End time of scenario:		 After ending cardiac arrest, start State 4. If surgical approach not mentioned, next rhythm recorded at 2 min of resuscitation (if impossible to perform insufflation with mask and bag, or the approach to respiratory tract) will be asystole, followed by death (asystole for 20 min). End of scenario. 	

SCENARIO EVALUATION

POSITIVE ASPECTS:

TO IMPROVE:

REALISM:

USED PROTOCOLS:

PROTOCOLS TO IMPLEMENT:









