

MODULE OF SKILL LABORATORY PRACTICE

BLOCK : DISASTER RELIEVE MEDICINE
TOPIC : FLUID RESUSCITATION

I. GENERAL OBJECTIVE

After finishing skill practice of fluid resuscitation, the student will be able to identification patient with shock hemorrhagic and manage shock hemorrhagic correctly.

II. SPECIFIC OBJECTIVES

At the end of skill practices, the student will be able to:

- a. perform physical examination of patient trauma with shock hemorrhagic
- b. perform management of patient shock hemorrhagic

III. SYLLABUS DESCRIPTION

Sub Module Objective

After finishing skill practice, student will be able to perform physical examination and management of patient shock hemorrhagic correctly.

Expected Competencies

- a. Students perform initial assessment of trauma cases
- b. Students perform physical examination to identify shock state correctly
- c. Students perform physical examination to identify the probable cause of shock and adjust treatment accordingly.

Methods

- a. Presentation
- b. Demonstration
- c. Coaching
- d. Self practices

Laboratory Facilities

- a. Skills Laboratory
- b. Clinical Instructors
- c. Student Learning guide
- d. Instructor guide
- e. References
- f. Equipment

Venue

Training room (Skills Laboratory)

Evaluation

- a. Skill demonstration
- b. Point nodal evaluation
- c. OSCE

IV. Equipment arrangement

All equipment required for this topic include :

- a. Multimedia equipment
- b. Examination couch
- c. Table
- d. chairs
- e. Stethoscope and sphygmomanometer
- f. Pulse Oximeter
- g. Models for IV inserting
- h. Infusion set and transfusion set

V. LEARNING GUIDE

No	Procedure	Performance scale		
		0	1	2
Initial Assessment of Trauma Cases				
1.	Airway Maintenance with restriction of cervical spine motion			
a.	Asking the patient for his/her name			
b.	Asking what happened *Note: an appropriate respond suggest that there is no major airway compromise (ability to speak clearly), breathing is not severely compromised and the level consciousness is not markedly decreased (alert enough to describe what happened)			
c.	While assessing and managing a patient's airway, take great care to prevent excessive movement of the cervical spine.			
2.	Breathing and ventilation			
a.	Look for symmetrical rise and fall of the chest			
b.	Listen for movement if air on both sides of the chest			
c.	Use a pulse oximeter to measure the patient's oxygen saturation			
3.	Circulation with haemorrhage control			
a.	Check level of consciousness When circulating blood volume is reduced, cerebral perfusion may be critically impaired, resulting in an altered level of consciousness.			
b.	Check skin perfusion patient (check colour of skin, especially in the face and extremities; check capillary refill time (CRT)) A patient with pink skin, especially in the face and extremities, rarely has critical hypovolemia after injury. Conversely, a patient with hypovolemia may have ashen, grey facial skin and pale extremities.			

c.	Assess pulse on radial artery bilaterally for quality, rate and regularity. A rapid, thready pulse is typically a sign of hypovolemia			
d.	Check blood pressure and measure pulse pressure (the difference between systolic and diastolic blood pressure)			
e.	Identify the source of bleeding as external or internal. External blood loss is managed by direct manual pressure on the wound. Use a tourniquet only when direct pressure is not effective and the patient's life is threatened.			
4.	If present any sign of shock, identify the probable cause of shock and adjust treatment accordingly. (shock haemorrhagic and shock non haemorrhagic)			
5.	For most trauma patients, begin treatments as if the patient has haemorrhagic shock.			
6.	Obtain access to the vascular system promptly			
Vascular Access (Peripheral IV Catheter)				
	IV Tubing Preparation			
7.	Prepare the equipment (macro set or transfusion set)			
8.	IV tubing regulator should be closed			
9.	Spike end inserted into IV fluid			
10.	Fill the drip chamber			
11.	Open regulator until all tubing filled with fluid			
	Catheter Insertion			
12.	Prepare the equipment (IV catheter min 18-gauge in adult)			
13.	Open sterile IV catheter and place it on sterile place			
14.	Choose the vein (The most desirable sites for peripheral in adults are the forearms and antecubital veins)			
15.	Place the tourniquet proximal to insertion site			
16.	Palpate vein			
17.	Wash hands then apply gloves			
18.	Aseptic and antiseptic			
19.	Puncture with IV catheter 10-30 degree			
20.	Back flow of blood seen			
21.	Advance only the catheter			
22.	Open tourniquet			
23.	Draw blood samples for type and crossmatch, appropriate laboratory analyses, blood gas analysis, toxicology studies, and pregnancy testing for all females of childbearing age.			
24.	Occlude the vein, then connect to IV tubing			
25.	Secure IV catheter			
26.	Discard unused to specific bin			
27.	If peripheral access cannot be obtained, consider placement of an intraosseous needle for temporary access, or central venous access (i.e femoral, jugular or subclavian vein), or venous puncture.			
28.	Write down on the chart			

Initial Fluid Therapy				
29.	Administer warmed fluid bolus of isotonic fluid. The usual dose is 1 liter for adults and 20 mL/kg for pediatric patients weighing less than 40 kilograms.			
30.	Assess the patient's response to fluid resuscitation and identify evidence of adequate end-organ perfusion and tissue oxygenation.			
31.	Pattern of Patient Response			
a.	Rapid response - quickly respond to the initial fluid bolus and become hemodynamically normal, without signs of inadequate tissue perfusion and oxygenation.			
b.	Transient Response - begin to show deterioration of perfusion indices as the initial fluids are slowed to maintenance levels, indicating either an ongoing blood loss or inadequate resuscitation.			
c.	Minimal or no response - Failure to respond to crystalloid and blood administration in the ED dictates the need for immediate, definitive intervention (i.e., operation or angioembolization) to control exsanguinating haemorrhage			
32.	Patients who are transient responders or non-responders require pRBCs, plasma and platelets as an early part of their resuscitation.			
33.	Monitoring for appropriate urinary output, CNS function, skin colour and return of pulse and blood pressure toward normal.			
Fluid Maintenance				
34.	Fluid maintenance for 24 hours a. 100 cc/kg for first 10 kg (0-10 kg) b. 50 cc/kg for second 10 kg (11-20 kg) c. 20 cc/kg for the next body weight (>20 kg) Hourly requirement for fluid maintenance a. 4 cc/kg for first 10 kg (0-10 kg) b. 2 cc/kg for second 10 kg (11-20 kg) c. 1 cc/kg for the next body weight (>20 kg)			
35.	Documentation			

VI. CRITERIA OF PERSONAL PERFORMANCE EVALUATION

SCALE	PERFORMANCE ACHIEVEMENT	COMMENT
1	If students are doing the task that only fill less than 35% of whole items for each step precisely	LOW
2	If student are doing the task that only fill 35% - 60% from whole items for each step precisely	MILD
3	If student are doing the task that only fill 60% - 78% from whole items for each step precisely	MODERATE
4	If student are doing the task that fill at least 80% from whole items for each step precisely	EXCELLENT

Reference

1. Advanced Trauma Life Support (ATLS), 10th Ed, 2018
2. Buku Kurikulum Perhimpunan Tim Bantuan Medis Mahasiswa Kedokteran Indonesia (PTBMMKI), Edisi 4, 2017/2018

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