FACULTY OF HEALTH SCIENCES
DEPARTMENT OF NURSING SCIENCE

UNIVERSITY OF JOHANNESBURG

PROGRAMME	:	**MEDICAL AND SURGICAL NURSING SCIENCE: CRITICAL CARE NURSING (GENERAL)**
SUBJECT	:	**PAPER 2** MODULE 3: NEUROLOGY MODULE 4: NEPHROLOGY
CODE	:	MCV2037
DATE	:	SUPPLEMENTARY EXAMINATION JANUARY 2018
DURATION	:	3 HOURS
WEIGHT	:	50:50
TOTAL MARKS	:	100

EXAMINER	:	PROF WE NEL
MODERATOR	:	DR T HEYNS (UP)
NUMBER OF PAGES	:	THIS PAPER CONSISTS OF FOUR (4) PAGES

INSTRUCTIONS	:	ANSWER ALL QUESTIONS. ½ MARK PER CORRECT FACT.

INSTRUCTIONS TO CANDIDATES: This paper remains the property of the University of Johannesburg and may not be removed from the examination room.

QUESTION 1

1.1 Distinguish clearly between the data and **pathophysiology** of the following head injuries:

- Epidural haemorrhage
- Subdural haemorrhage (SDH)
- Diffuse axonal injury (DAI)
- Sub-arachnoid bleed (20)

1.2 Explain how **vasospasm** can be prevented following a sub arachnoid bleed. (6)

1.3 It is crucial to maintain a good CBF (cerebral blood flow) especially after a DAI (diffuse axonal injury). Explain the care you would render to a patient with DAI to maintain his CBF. Incorporate CPP (cerebral perfusion pressure) and ICP (intra cranial pressure) in your discussion. (24)

***[50]**

QUESTION 2

Please read the scenario below and answer the questions that follow.

Scenario

Mr Z. is a 20-year old teenager (weight 88kg) who spent an extensive amount of time over a short period on the road for comrades marathon. Mr. Z. was admitted to ICU, with the following:

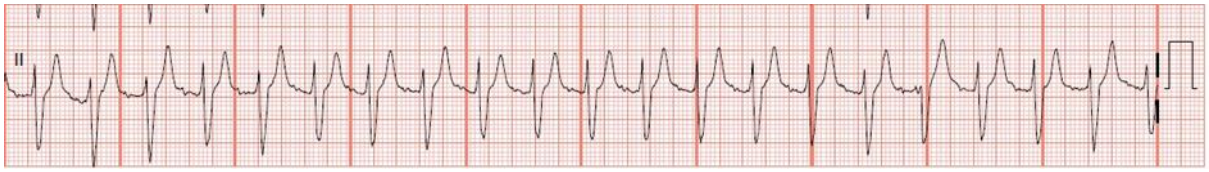
Physical examination

- Temperature 37,8° C
- Poor peripheral pulses, hands cool to touch.
- Both arms (biceps) very swollen
- Patient complaining of pain and stiffness in both arms
- Mild loss of function in both arms
- BP 74/43
- Heart rate 116

Arterial blood gas (ABG)

- pH 7,29
- HCO_3 14 mmol/L
- $PaCO_2$ 37mmHg
- Anion gap 17 mmol/L
- Lactic acid 4,5
- Be -4,2

ECG strip



Serum electrolytes/blood results: **:**

S - Potassium 6,8 mmol/L

S - Phosphate 3,9 mmol/L

S – Calcium Total 1,10 mmol/L

S - Urea 14,1 mmol/L

S - Creatinine 189 umol/L

eGFR 41

CK > 5534U/L

LDH 482 U/L

Urinalysis

Colour brown/red

pH. 5,0

SG >1025

Myoglobinuria present

Urine output 10-15ml/hour

The ICU physician stated that Mr. Z has rhabdomyolysis and acute kidney injury (AKI) with acute tubular necrosis (ATN).

2.1 Discuss Mr. Z. above presentation in relation to the pathophysiology of rhabdomyolysis and ATN. (25)

2.2 Discuss the management of this patient – Mr. Z (in relation to his presentation and diagnosis). (15)

2.3 Renal replacement therapy was commenced on Mr. Z. Discuss the nursing care and considerations that you should be aware of and provide rationale. (10)

***[50]**

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