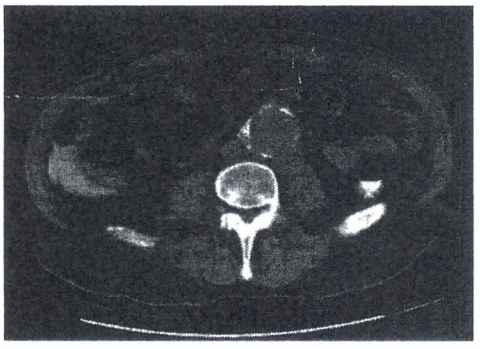
Examination for MD Degree in:Vascular &Endovascular Surgery
Course Title: Commentary
Date:25-11-2020
Time Allowed:90 minutes
Total Assessment Marks:200

Tanta University
Faculty of Medicine
Department of:
VASCULAR&ENDOVASCULAR SURGERY .....

A 65-year-old male presents to the emergency department with sudden onset of severe back pain. The pain is described as severe and constant without alleviating or aggravating symptoms. He has never had pain like this before. He denies chest pain, shortness of breath, or loss of consciousness.
His past medical history is significant for hypertension, and chronic obstructive pulmonary disease. He has never had a laparotomy.
His vital signs yielded a pulse at 100 bpm and a blood pressure of 110/60 mm Hg.
He was without abdominal tenderness or masses and no bruits were heard; however, his Abdominal wall was slightly obese and the examination was difficult. He has bilaterally palpable lower limb pulses.

Question 1
What is the differential diagnosis causing this patient's complaint?

Question 2
What should be the investigations?



Question 3
Having confirmed the diagnosis what are the options for management?

Question 4
What is the morbidity and mortality of surgery of this case?

Question 5
Describe the techniques used in the management of this case?

Question 6
What are the contraindications of endovascular repair of this case?

Question 7
Mention the most common complications following repair of this case ?

Question 8

Tanta University
Faculty of Medicine
Department of Surgery

Date: October 2020
Time allowed: 90 Minutes
(200 Marks)

General Surgery MD Examination
Paper III (Commentary)

.A 40-year-old male, with negative past medical & surgical history, presents to the outpatient clinic with three months history of abdominal fullness, intermittent crampy lower abdominal pain, diarrhea and bleeding per rectum. The patient also reported anorexia and fatigue, together with loss of about 7 Kg over the last 6 months. General examination of the patient is unremarkable. Abdominal examination shows an enlarged liver, palpable three fingers below the right costal margin. Triphasic abdominal CT scan shows the following data: a solitary metastatic hepatic focal lesion, 16X13X11 cm, occupying segments VII, VIII, IV A and most of segments VI and V. The poral vein is patent and the liver background is normal. In the GIT, there is mural wall thickening at the recto-sigmoid junction. Colonoscopy shows a large circumferential ulcerated mass from which multiple biopsies were taken and diagnosed as mucoid adenocarcinoma with signet ring differentiation. Metabolic profile is normal, and CEA: 990, CA 19-9: 2900.

.Comment on: different approaches to the management of this patient.

Good Luck

إمتحان الشفوى والإكلينيكى (للناجحين فى التحريرى) يوم السبت ٥ ديسمبر

الساعة الثامنة صباحا - بقسم الجراحة بالمستشفى الفرنساوى - بالدور السابع

Examination for MD Degree in:Vascular and Endovascular Surgery
Date:18-11-2020
Time Allowed:3 hours
Total Assessment Marks: 260

Tanta University
Faculty of Medicine
Department of:
Vascular
&EndovascularSurgery

1- Causes and management of bleeding varicose veins of the lower limb. 65

2- Primary malignant tumors of the venous system: types , management and prognosis. 65

3- Causes and management of chronic unilateral swollen lower limb. 65

4- Venous injuries of the iliac veins and inferior Vena Cava 65

Tanta University **Faculty of Medicine** **Anesthesia, SICU & Pain Medicine Dep.** **Date: 18 /11 / 2020**	**Exam: MD-2nd paper (Surgical critical care)** **No. of Questions:** **1 Long Answer Question (LAQ)** **4 Short Answer Questions (SAQs)** **10 Single Best Answer Questions (SBAQs)** **20 Multiple Choice Questions (MCQ)** **Times allowed: 3 hours** **Marks: 80x1 Marks / LAQ** **20x4 Marks / SAQ** **6x10 Marks / SBAQ** **2x20 Marks / MCQ** **Total → (260)**	

Long Answer Question (LAQ)

A 72 year old male presented to the surgical critical care unit with abdominal pain, nausea, and vomiting. His medical history revealed type-2 diabetes mellitus, hypertension, and atrial fibrillation. Evaluation of the abdominal pain showed that it was of acute onset, severe, and out of proportion to abdominal findings. On examination he was very uncomfortable because of abdominal pain. He was a febrile, heart rate 110 bpm, SPO2 93% on 6L of oxygen by nasal cannula, respiratory rate 30 breaths/min, and blood pressure 110/65 mmHg. His abdomen was generalized tender without rebound or guard. Lab studies revealed hemoglobin of 11 g/dl, WBC count of 14 x 10^3, Neutrophil 85%, lymphocyte was 5%, platelets of 120 x 10^3, lactate of 12 mmol/L, creatinine of 1.9 mg/dl (previous creatinine value within the last month was 1.4 mg/dl), blood glucose of 450 mg/dl, sodium of 136 mmol/L, potassium of 6.3 mmol/L. and chloride of 95 mmol/L, albumin of 2.8 g/dl, bilirubin of 1.6 mg/dl, INR of 1.2, ALT 120 IU/L, CRP of 120 mg/dl, LDH was 820 U/L, and D-dimer of 5 mcg/ml. Troponin was positive and NT-pro-BNP was 90 pg/ml. ABGs values were as follow; pH 7.10, PaO2 70 mmHg, PaCO2 22 mmHg, HCO_3^- 12 mmol/L, and BE of – 18 mmol/L.

A. What is your differential diagnosis? (15 marks)

B. What is the most likely diagnosis? Justify your answer? (15 marks)

C. How do you confirm the most likely diagnosis? (5 marks)

D. What are the absolute indications of abdominal exploration in non-traumatic acute abdominal emergencies? (6 marks)

E. Stratify phases of patients with critical COVID-19? (9 marks)

F. Outline myocardial dysfunction with COVID-19? (15 marks) How would you differentiate between COVID-19 induced myocardial ischemia and toxic myocarditis? (5 marks)

G. Discuss anticoagulant use in patients with COVID-19? (10 marks)

Short Answer Questions (SAQs)

Q1. Mechanical ventilation has a pivotal role in the perioperative care of critically ill- surgical patients.

A. Outline mechanical ventilation-induced diaphragmatic dysfunction? (10 marks)

B. Discuss the rational for the use of driving pressure-guided mechanical ventilation in patients with ARDS? (10 marks)

Q2. Patients with COVID-19 are commonly present with adult respiratory distress syndrome (ARDS).

A. Discuss the impact of severe COVID-19 infection on changing ARDS management? (10 marks)

B. Describe the impact of development of right ventricular dysfunction on ventilation strategy in ARDS? (10 marks)

Q3. Discuss the impact of severe COVID-19 infection on changing sepsis management? (20 marks)

Q4. Significant fraction of critically ill surgical patients develop AKI, with significant impact on both morbidity and mortality.

A. Outline the most common causes of AKI in surgical patients? (10 marks)

B. How do you predict post-cardiac surgery AKI? (6 marks) Explain the meaning of Frusemide stress test has 87% sensitivity and 84% specificity to predict progression to stage 3 AKI? (4 marks)

Single Best Answer Questions (SBAQs)

1. A 45-year-old female who underwent bilateral lung transplantation 6 days ago is intubated in the SICU to protect airway following a seizure episode. Her transplantation was uneventful. On examination, the patient is sedated and her pupils were mildly dilated but equally reactive to light. Blood pressure was 110/90 mm Hg and heart rate 120 beats per minute. Purulent exudate is noted from the lower part of sternotomy site with no obvious instability or bony crepitation. The output from her chest drains was non-purulent. ABGs analysis shows lactate of 2.5 mmol/L, PaO2 of 92 mm Hg, and PaCO2 of 38 mm Hg. Her laboratory results demonstrate a WBC count of 16 500 cells/μL, hemoglobin of 9.1 g/dL, platelet count of 350 000/μL. Blood cultures are collected. Wound culture show numerous neutrophils but a negative gram stain. A CT scan of the brain did not show any acute abnormalities. Debridement of sternal wound is done and the patient is started on empiric vancomycin and piperacillin-tazobactam. What is the next best step in the management of this patient?

A. Wait for final culture results, no additional antibiotics
B. Lumbar puncture, empirical IV acyclovir to treat Herpes simplex encephalitis
C. Check serum ammonia level; start IV doxycycline to cover Mycoplasma hominis
D. Start IV micafungin for empiric fungal coverage
E. Order an MRI of the brain to rule out posterior reversible leukoencephalopathy

2. A 59-year-old female with no past medical history is admitted to the SICU following a large right middle cerebral artery ischemic stroke. She was not a candidate for intravenous tPA nor intra-arterial therapy. She has had progressive somnolence and anisocoria with a right larger than left pupil that was not responsive to direct or consensual light testing. She was started on hyperosmolar therapy followed by a decompressive hemicraniectomy. She is now post-stroke day 5 and continues to have malignant cerebral edema. Prior to her next dose of mannitol her lab values are as follows: Sodium 150 mmol/L, BUN 10 mg/dl, potassium 3.5 mmol/L, calcium 2.3 mmol/L, chloride 112 mmol/L, glucose 186 mg/dl, and osmolarity 314 mmol/L. Based on her osmolar gap, which of the following is the best answer?

A. Mannitol should not be given because of high osmolar gap
B. Mannitol therapy is a risk-free of AKI
C. Her osmolar gap is zero, so, mannitol should be given in a dose of 0.25 – 0.5 g/kg /6 to 8 hours.
D. Her osmolar gap is 14, mannitol should not be given
E. Osmolar gradient as high as 20 mmol/L is required to lower ICP through osmodiuresis

3. An 88-year-old female presented to SICU with injury to her cervical spinal cord, which was immobilized with a cervical collar. Her initial vital signs revealed heart rate 116 bpm, BP 95/54 mmHg, and SpO2 98% on 2 L of oxygen by nasal cannula. Which of the following interventions are more likely to improve her neurological outcome?

A. Maintaining systolic blood pressure (SBP) >120 mm Hg
B. Administering intravenous methylprednisolone
C. Maintaining her central venous pressure (CVP) > 20 cm H2O
D. Maintaining mean arterial pressure (MAP) >85 mm Hg

E. None of the above

4. A 31-year-old male presents to the SICU following falling from a height. He has an expanding hematoma of the right thigh. Apart from otherwise superficial abrasions, he has no other significant trauma burden. He is taken to the operating room for orthopedic surgery and undergoes an uneventful procedure. The following day, on postoperative day 1, he is noted to have altered mental status and dyspnea with associated hypoxemia. On closer inspection, he is noted to have a fine petechial rash covering his neck and anterior trunk. All of the following statements about the underlying diagnosis are true, except:

A. Most commonly associated with long bone fractures and pelvic fractures.
B. Typically presents 24 to 72 hours after the initial injury.
C. The classic triad includes neurologic changes, respiratory distress, and a nondependent petechial rash
D. Diagnosis is made with aid of radiographic imaging, specifically CT of the chest
E. Treatment is largely supportive, including fluid resuscitation, oxygenation, and mechanical ventilation if indicated

5. A 67-year-old female with COPD, hypertension, and type II diabetes is admitted to the SICU following a right middle lobectomy for resection of non–small-cell adenocarcinoma. The patient has required positive pressure ventilation since her operation because of persistent hypoxemia and inadequate ventilation on pressure support. On postoperative day 5, she develops a new persistent air leak through her right-sided chest tube. Bronchoscopy confirms the presence of a bronchopleural fistula (BPF) on the right side. The ventilator repeatedly alarms for low minute ventilation despite increasing tidal volumes and RR. The latest ABG shows the following: pH 7.15, PCO2 82 mmHg, PO2 63 mmHg, HCO3 27 mmol/L on ventilator settings of Volume Control, TV 560 (8 ml/kg of PBW), RR 24, PEEP 8, FiO2 100%. Blood pressure and heart rate have remained stable. Which of the following ventilation strategies is most appropriate until surgical repair of BPF can take place?

A. Pressure control ventilation
B. Single lung ventilation
C. High Frequency Oscillator ventilation
D. Synchronized Intermittent Mandatory Ventilation
E. Low value of tidal volume and lower value of PEEP ventilation

6. A 59-year-old male who underwent an aortic valve replacement for congenital bicuspid aortic stenosis is admitted to the SICU. The case went well, with a short bypass and cross-clamp time, minimal blood loss, and no blood products given. At the end of the case, an intraoperative TEE showed good biventricular function and a small amount of air in the apex of the left ventricle. For medications during the case, the patient received 1500 mcg fentanyl; 100 mg of Propofol for induction; 100 mg of rocuronium, heparin, and protamine for bypass; and tranexamic acid for antifibrinolysis, and he was placed on dexmedetomidine post-op for sedation in the SICU. He was extubated without difficulty 5 hours after his arrival from the operating room. Shortly after extubation, he had a witnessed generalized myoclonic seizure. The seizure was terminated within a few minutes after one dose of intravenous midazolam. A stat head CT was obtained, which was read as normal with no acute changes. He was seen by neurology and had no further seizure activity throughout his hospital stay. Other than air from the surgical procedure, which of the following medications that the patient received are most likely associated with postoperative risk of seizure?

A. Propofol
B. Dexmedetomidine
C. Rocuronium
D. Tranexamic acid
E. Fentanyl

7. A 55-year-old male with a history of methicillin-resistant *Staphylococcus aureus* (MRSA) colonization presents to the SICU with complaints of purulent drainage from his surgical incision. He is now 7 days postop from his sigmoid colectomy. On examination, his temperature is 38.8 C and hemodynamically within normal limits. His incision has skin staples in place and moderate surrounding erythema extending >5 cm from the wound edge and associated induration. Purulent drainage is easily expressed from the most inferior aspect of the incision. Which of the following is the most appropriate management of this patient?
A. Open the incision, obtain a fluid culture, and start on an empiric course of IV Vancomycin and Piperacillin-Tazobactam
B. Open the incision, obtain a fluid culture and start on an empiric course of IV Vancomycin alone
C. Discharge home on a 7-day course of oral Cephalexin
D. Open the incision, obtain a fluid culture, and start on an empiric course of IV Piperacillin-Tazobactam alone
E. Open the incision, obtain a fluid culture, and hold off on starting antimicrobial therapy until culture data returns

8. A 44-year-old, 70 kg female with a history of type-2 DM, non-obstructive coronary artery disease (CAD), heart failure with preserved ejection fraction, and chronic kidney disease with a baseline Cr 1.6 mg is admitted to the SICU intubated after a laparoscopic appendectomy complicated by rupture of the appendix during resection. Blood loss was minimal, per surgical hand off. First set of ICU vital signs: HR 119, BP 83/36, respiratory rate (RR) 18 on volume control ventilation, and temperature 38.6°C. Preliminary set of labs are remarkable for WBC 17, Hb 7.8, platelets 54, pH 7.3, lactate 3, and all electrolytes within normal limits. After a 1 L crystalloid bolus and initiation of a norepinephrine drip at 4 mcg/min, BP is now 96/54. What is the best strategy for ongoing resuscitation?
A. Transfuse PRBCs for goal Hemoglobin > 9 g/dL
B. Transfuse platelets for goal > 100 000/mm3
C. No further fluid resuscitation; titrate norepinephrine drip to maintain mean arterial pressure (MAP) > 65 mmHg
D. Repeat 1 L crystalloid bolus
E. Start hydrocortisone 50 mg/6h intravenously.

9. A 46-year-old woman with type 2 DM and obesity is admitted to the SICU with sepsis after emergency laparotomy. Her ABP is 80/40 mm Hg, HR 108 bpm, RR 24 breaths/min, and SPO2 is 90% on 4-liter nasal canula. Lactic acid is 6 mmol/L. The ICU team requests the patient's permission to insert a central line through an internal jugular approach to begin norepinephrine. After being informed about the indications, risks and benefits, she refuses to authorize it and requests that all of the necessary drugs be administered through a peripheral intravenous line. The intensivist refuses to administer norepinephrine through the peripheral IV line because of the risk of infiltration with the potential loss of limb. The intensivist is exercising which of the following ethical principles?
A. Non-abandonment versus non-maleficence

B. Bioethics versus legal obligation
C. Autonomy versus non-maleficence
D. Autonomy versus beneficence
E. Autonomy versus justice

10. A previously healthy 32-y-old lady scheduled for abdominoplasty. She is asymptomatic, her preoperative laboratory profile shows high values of ALT & AST but less than double the normal. However other liver function tests values are as the following; bilirubin 1.1 mg/dl, albumin 3.9 g/dl, and INR 1.1. Which of the following options would be the most appropriate for her setting?
A. Proceed with surgery.
B. Cancel surgery.
C. Abdominal ultrasonography to exclude liver cirrhosis.
D. Abdominal computed tomography to exclude liver cirrhosis.
E. Liver biopsy to confirm etiological cause of cirrhosis.

Multiple Choice Questions (MCQs)

1. Which one of the following patients has the highest risk for postoperative morbidity and mortality?
A. A 92-years-man with hypertension, coronary artery disease (CAD), and poor exercise tolerance scheduled for cataract surgery under general anesthesia (GA)
B. A 52-years-old man with hypertension, good exercise tolerance undergoing emergent ruptured abdominal aortic aneurysm surgery under GA
C. A 68=years-old woman with no associated morbidities, moderate exercise tolerance and scheduled for elective colectomy under GA
D. An 83-years-old woman with CAD, moderate exercise tolerance scheduled for urgent hip fracture repair under GA

2. Which one of the following statements is true?
A. Pulmonary embolism is a shunt defect due to perfused less ventilated alveoli
B. Pulmonary embolism is a shunt defect due to ventilated less perfused alveoli
C. Pulmonary embolism is a dead space defect due to perfused less ventilated alveoli
D. Pulmonary embolism is a dead space defect due to ventilated less perfused alveoli

3. Which one of the following means a low pulse pressure?
A. Mean arterial pressure is less than 50 mmHg
B. Diastolic blood pressure is less than 50 mmHg
C. The difference between systolic blood pressure and diastolic blood pressure is equal to systolic blood pressure
D. The difference between systolic blood pressure and diastolic pressure is less than half of systolic pressure

4. Which of the following initial ventilator setting is appropriate for asthma exacerbation?
A. AC mode, rate 16, tidal volume 8 ml/kg
B. AC mode, rate 12, tidal volume 10 ml/kg
C. AC mode, rate 8, tidal volume 6 ml/kg
D. SIMV mode, rate 16, tidal volume 10 ml/kg

5. Which one of the following fluid therapy during major abdominal surgery is associated with the best survival data?
A. 5% human albumin
B. 6% hydroxyethyl starch
C. 5% dextrose in 0.45% saline
D. None of the above

6. In patients with increased ICP, hyperventilation is limited to 30 to 35 mmHg, because additional hyperventilation:
A. May result in clinical hyperkalemia
B. Could result in paradoxical vasodilation
C. May be associated with worsening of neurologic outcome
D. Is virtually impossible

7. All of the following are components of 1-hour bundle for management of sepsis and septic shock, except:
A. Start fluid resuscitation using at least 30 ml/kg of crystalloid, for hypotension or blood lactate more than 4 mmol/L
B. Early use of hydrocortisone 50 mg /6 hours for persistent hypotension after fluid resuscitation
C. Early use of norepinephrine during or after fluid resuscitation to maintain mean arterial pressure ≥ 65 mmHg
D. Re-check blood lactate if the initial value more than 2 mmol/L

8. Which of the following is not true, regarding blood glucose in critically ill patients?
A. Hyperglycemia presents increased risk of postoperative infection.
B. Hyperglycemia is expected with head injury and require no treatment because it is transient.
C. Hyperglycemia is common in critically ill as a complication to parenteral nutrition and/or steroid therapy.
D. Hyperglycemia presents a risk of mortality in diabetic patients present with AMI.

9. All of the following are included in wells criteria for PE, except:
A. Tachypnea
B. Tachycardia
C. Hemoptysis
D. Diagnosis other than PE is less likely

10. A 46-year-old man develops acute respiratory distress with stridor immediately after admission to the SICU following hemi-thyroidectomy. Chest X-ray excludes pneumothorax but shows diffuse pulmonary infiltrates. Which of the following is the optimal therapeutic response?
A. High dose steroids
B. Fiber-optic bronchoscopy
C. Nebulized epinephrine
D. Volume controlled ventilation with PEEP

11. In mechanically ventilated patient with COVID-19, it is recommended that:
A. SPO_2 not lower than 96%%

B. SPO_2 not lower than 92%
C. SPO_2 not higher than 96%
D. SPO_2 not higher than 90%

12. Which of the following initial ventilator setting is appropriate for patient with acute severe asthma complicated by hypoxemia and hypercapnia?
A. AC mode, rate 30/min, tidal volume 3 ml/kg, and IFR 60 – 80 L/min
B. AC mode, rate 20/min, tidal volume 6 ml/kg, and IFR 40 L/min
C. Volume controlled with rate 8/min, tidal volume 4-6 ml/kg, and IFR 60 – 80 L/min.
D. Volume controlled with rate 10/min, tidal volume 10 ml/kg, and IFR 40 L/min.

13. Using eFAST examination, which of the following findings is most indicative of pneumothorax in trauma patient with hypotension but fluid responsive?
A. Lung sliding
B. B lines
C. A lines
D. Lung point

14. All of the following are recommended for tracheal intubation in patient with COVID-19, except:
A. Using direct laryngoscopy to ensure intubation from the 1st trial.
B. Using video-guided laryngoscopy.
C. Using PPE and N95 respirator mask.
D. Performed by the most available experienced anesthetist.

15. Which of the following mean the number needed to treat of a new analgesic is 4?
A. From every 4 patients treated with the new analgesic, one patient shows effective pain relief.
B. From every 4 patients treated with the new analgesic, 1 patient shows no pain relief.
C. From every 10 patients treated with the new analgesic, 4 patients show effective pain relief.
D. From every 10 patients treated with the new analgesic, 4 patients show no pain relief.

16. Which of the following is the most important indication for the surgical evacuation of a subdural hematoma?
A. A GCS score of 3
B. A recent history of fall accompanied by a change in mental status.
C. Headache.
D. A GCS score of 10 that deteriorates to 6

17. Which of the following changes reflect the effect of air bubble on ABGs values?
A. Increase of Pa O_2 and decrease of Pa CO_2
B. Increase of Pa O_2 and increase of Pa CO_2
C. Decrease of Pa O_2 and increase of Pa CO_2
D. Decrease of Pa O_2 and decrease of Pa CO_2

18. Re-feeding syndrome is associated with all of the following except:
A. Hypokalemia
B. Hypoglycemia

C. Hypophosphatemia
D. Hypomagnesemia

19. Nutritional support of acute critically ill malnourished surgical patient can be guided by:
A. Calories to nitrogen ratio of 20:1
B. Calories to nitrogen ratio of 50:1
C. Calories to nitrogen ratio of 150:1
D. Calories to nitrogen ratio of 300:1

20. The mean ± 3 standard deviation encompasses what percentage of the sample population?
A. 50%
B. 68%
C. 95%
D. 99%

.....

.....GOOD LUCK.

Tanta University
Faculty of Medicine
Department of Surgery

Date: October 2020
Time allowed: 3 hours
(260 Marks)

General Surgery MD Examination
Paper (II)

All questions should be answered

Write short notes on:

1-Small for size syndrome? **(100 Marks)**

2-Management of proximal gastric carcinoma? **(80 Marks)**

3-Pathology and management of Pseudomyxoma Peritonii? **(80 Marks)**

Good Luck

إمتحان الشفوى والإكلينيكى (للناجحين فى التحريرى) يوم السبت ٥ ديسمبر

الساعة الثامنة صباحا - بقسم الجراحة بالمستشفى الفرنساوى - بالدور السابع