
SAQ 12 (Jason Harney)

Thematic flaws in people's answers were as follows:

not treating vomiting

IV access listed as a treatment (I would consider this an intervention but without fluids or antibiotics is not a treatment)

a oncology consult listed as a treatment - not really a treatment

U&ECr as 'baseline' - one of my pet hates - patient was vomiting so and has had recent chemotherapy so good chance of electrolyte imbalance renal impairment abnormal calcium

some wanted to lead to intubation which I thought was a bit of overkill for this question

a good answer for investigation would have been a 5th more encompassing - other tailored to source identification and control of the sepsis

Question 16 (12 marks)

A 42-year-old female presents with fever five days after induction chemotherapy. Other than her malignancy she has no medical problems but does suffer from a rash when given penicillins.

Her vital signs are as follows:

HR=110

BP=100/60

T=39.0

Sats=98% RA

RR=24

You assume she is neutropenic and decide to treat empirically.

a). List two (2) options for the preferred antibiotic monotherapy for this patient. (1 mark)

Cefepime 2g iv OR
Ceftazidime 2g iv OR
Meropenem 1g iv

ETG: <https://www.eviq.org.au/clinical-resources/oncological-emergencies/123-immediate-management-of-neutropenic-fever#management>

b). List three (3) risk factors for tumour lysis syndrome (3 marks)

High tumour proliferation rates
Large tumour burden
Sensitivity to chemotherapy
Haematological malignancy
Bulky disease (>10cm diameter)
Leukocytosis ($>25 \times 10^6$)
Pre-existing renal impairment
Pre-existing hyperuricaemia

Jonathan Wagner and Sanjay Arora, Oncologic Metabolic Emergencies, Emergency Medicine Clinics of North America, 2014-08-01, Volume 32, Issue 3, Pages 509-525,

c). List three (3) metabolic features of tumour lysis syndrome other than renal impairment and hyperuricaemia (3 marks)

Hyperkalaemia
Hyperphosphataemia
Lactic acidosis
Hypocalcaemia

Dunn, Tintinalli

There is a prolonged wait for the patient to get seen by the oncology team and you are concerned that she will deteriorate if her hyperuricaemia goes untreated.

d). List two (2) interventions to treat hyperuricaemia secondary to tumour lysis syndrome in the ED. (1 mark)

Allopurinol OR Rasburicase
Iv hydration (must have)

The oncology registrar finally comes down to see the patient. The nurse attending to the patient comes to find you as the patient complained that the oncology registrar was abrupt and dismissive towards her and the patient is now crying.

e). How will manage this situation? (4 marks)

Speak to patient: apologise, elaborate, reassure that you will investigate and follow up with them
Speak to registrar: inform of patient's complaint, give opportunity to explain/apologise
Document complaint in notes, risk management system
Inform oncology consultant, ED director
Complete the complaint process : investigate, take actions etc

References:

Dunn

Jonathan Wagner and Sanjay Arora, Oncologic Metabolic Emergencies, Emergency Medicine Clinics of North America, 2014-08-01, Volume 32, Issue 3, Pages 509-525

Tintinalli

Question 19 (13 marks)

Your junior registrar is seeing a 46 year old woman with fevers and altered mental status who looks unwell. At this stage they haven't been able to locate a source of infection and have empirically treated her with intravenous flucloxacillin and gentamicin.

You review the patients full blood count (FBC), results below

Hb 108

WCC 6.5

Platelets 43

In ideal circumstances, below what platelet level would you organise a platelet transfusion to facilitate (1.5 marks)

Lumbar puncture (afebrile): < 50

Central venous catheter: < 20

Asymptomatic patient: < 10

What are the 5 features of TTP? (2.5 marks)

Fever

Thrombocytopaenia

Microangiopathic haemolytic anaemia

Renal impairment

CNS changes (e.g. headache, seizure, altered mental status, coma)

Discuss the treatment options for TTP (3 marks)

Plasmapheresis = 1st line

Corticosteroids

Splenectomy

Candidate Name: _____

Complete the following table that compares the following serious causes of thrombocytopaenia (6 marks)

	TTP	DIC	ITP
Platelet count	Low	Low	Low
INR / PT	Normal	High	Normal
Microangiopathic haemolytic anaemia	Present	Present	Absent
Fibrinogen	Normal	Low	Normal
Safe to give platelets	No	Yes	Yes

Candidate Name: _____

Q18 Answers

Q1

Haemolysis due to ABO incompatibility

Febrile non-haemolytic reaction

Allergic reactions

TRALI

Q2

Non-immune haemolysis

Sepsis

TACO

Q3

Stop the transfusion

Check pt details for incorrect blood administration

Samples of pt blood and transfusion pack to blood bank

Also accept IV fluids, paracetamol

Q4

iron overload

transmissible infections eg HIV

alloimmunisation

GVHD

Post-transfusion purpura

TRIM (transfusion related immune modulation)

SAQ 24: (6 minutes)
(Total Marks 12) Passmark 7/12

A 14 year old girl presents to ED with a rash, as seen in the accompanying clinical photograph. The rash has been present for the last 24 hours. She has been playing rugby league today and has a headache.

She has had heavy PV bleeding the past hour. B-hCG is negative.

She appears alert and active.
Her vital signs are as follows:

GCS	15/15
HR	88
RR	16
SpO2	100% in room air
Temp	36.5 C
CRT	< 2
BP	119/80

Questions:

1. Describe the main features present. (2 marks) 1/2

Petechiae & Purpura on both legs
Bruising to upper thighs

2. You perform a full blood count.

List 3 other investigations that you would perform in ED for this patient, with justification
(6 marks)

Investigations:

Coagulation profile – investigate possible bleeding disorder and/or DIC

Urea and creatinine – AKI in MAHA or TTP

CT head if low platelets in context of trauma

LFTs re: DIC and haematological malignancy

X-match/G+H re: possible need for transfusion

Other reasonable investigations as suggested by candidates (examiner discretion), but would not include:
Septic screen/blood cultures (stem suggests well, afebrile)

B-hCG – given in stem

BSL – generic, non-contributory

VBG – generic, non-contributory in this setting (not shocked, Hb can wait)

Candidates must have bold plus 2 others with justification for full marks

3. The patient's FBC shows the following:

Hb	112 g/dL	(115-165)
MCV	72fL	(80-100)
WCC	$6 \times 10^9 /L$	(4-11)
Neutrophils	47%	(40-70%)
Lymphocytes	30%	(14-45%)
Monocytes	6%	(4-13%)
Eosinophils	1%	(0-7%)
Basophils	0%	(0-3%)
Plt	$2 \times 10^9 /L$	(150-400)

What is the most likely diagnosis in this patient?

(2 marks)

Immune Thrombocytopenic Purpura

4. Her PV bleeding increases and is difficult to control. Her GCS is now 12. List 2 specific treatments you would give as part of your management to stop her bleeding

(2 marks)

Intravenous Immunoglobulin

IV Methylprednisolone

IV platelets

Total 12 marks

Expected candidate score for just at standard: 7/12

SAQ 18 (9 minutes) (Total 18 Marks) Passmark 12/18

A 38 year old female presents to your ED with a referral letter from her GP requesting a blood transfusion for anaemia. She does not have any obvious source of bleeding other than a history of menorrhagia.

Her FBC is shown below.

Hb 74 g/L
MCV 75
WCC 7.4
Plt 380

Questions:

1. List 5 possible causes for her anaemia. (5 marks)

Iron deficiency anaemia from blood loss (likely menstrual or GIT)

Iron deficiency anaemia from poor dietary intake
Megaloblastic anaemia from folate/B12 deficiency
Haemolysis
Anaemia of chronic disease
Bone marrow malignancy or infiltration
Haemoglobinopathy

2. List three indications for a blood transfusion in this patient? (3 marks)

Hb < 70 g/L
Symptomatic anaemia (eg SOB, Syncope, Heart failure)
Significant comorbidity (eg cardiac disease, malignancy)

The patient is deemed to require a blood transfusion and you have a discussion with her regarding consent for this. However, she refuses the transfusion due to concerns about the risks.

3. List 4 early and 4 late complications of blood transfusion. (8 marks)

Any of the following for up to 4 marks:

Any of the following for up to 4 marks:

Early Complications	Late Complications
Acute haemolytic reaction	Blood borne infections (HBV, HIV, HCV, vCJD, HTLV)
Acute febrile non-haemolytic reaction	Alloimmunisation
Allergic reactions/Anaphylaxis	Post-transfusion purpura/Thrombocytopenia
Bacterial infection/Sepsis	Iron overload

Transfusion-related acute lung injury (TRALI)	Delayed haemolytic transfusion reaction
Transfusion associated circulatory overload (TACO)	Transfusion-associated graft vs host disease

Reference: www.transfusion.com.au

4. List 2 alternative treatment options you could consider in this patient. (2 marks)

Iron oral supplements

Iron infusion

Conservative Mx with consideration of EPO if no improvement in the next few weeks.

Passmark: 12/18

Question 1 (19 marks)

Describe the findings on the CT image provided (3 marks)

Extensive left sided abdominal wall haematoma
Arterial blush – suggesting active bleeding
Swirl sign – hypodensity – suggesting active bleeding
No haemoperitoneum / pneumoperitoneum

You are considering reversing the anticoagulation, regarding prosthetic valve thrombosis, name 2 factors (relating to the valve) that effect this risk of this upon reversal (2 marks)

Valve Location: Mitral > Aortic
Valve material: Bare metal > tis
What is the daily thrombosis risk? (1 mark)

Likely <1%

You decide to fully reverse the patient's warfarin, outline your approach (3 marks)

Vitamin K 10mg IV
Prothrombinex 50u/kg IV
+/- FFP 2u (may be part of massive transfusion)

The patient requires a massive transfusion, name 6 laboratory targets for massive transfusion (6 marks)

pH >7.2
Lactate <4
Ca >1.1
Platelets >50
INR < 1.5
Fibrinogen >1.0
aPTT / PT <1.5x normal
BE < -6

Note: Hb shouldn't be used during acute bleeding / haemodynamic parameters and measured blood loss more appropriate

Excluding resuscitation and reversal, outline your management plan for this patient (4 marks)

Resuscitation: Covered

Analgesia: Fentanyl IV aliquots 25-50mcg titrated to pain

Specific: Intervention Radiology for Embolisation of Vessel

Disposition: HDU / ICU for haemodynamic monitoring, transfusion targets etc

Question 2 (6 marks)

Candidate Name: _____

Describe the findings on this photograph (3 marks)

Swelling right occipital region

Erythematous

Loss of hair

What is the likely diagnosis? (1 mark)

Kerion – fungal infection

Describe the management of this condition (2 marks)

Supportive: Simple analgesia e.g. paracetamol 1g PO Q6H PRN

Specific: 6-8 weeks ORAL antifungal (itraconazole, terbinafine, griseofulvin)

Oral or IV antibiotics incorrect, Incision & drainage = 0/2

Candidate Name: _____