Haematological emergencies

T.J. LITTLEWOOD
RCP.
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Case 1

EM.
Aged 65

Referred to acute medical intake with fatigue.
‘Could she have an urgent blood transfusion’?
Hb 96g/l
MCV 127.4fl
WCC 7.48 x 10⁹/l
Platelets 257 x 10⁹/l
Creatinine 67 micromol/l
Bilirubin 27 micromol/l
LDH 370iu/l
Transfused 2 units of blood and discharged
Differential diagnosis?
Blood film
EM

Iron 32 micromol/l
Transferrin 2.12g/l
Tsat 69% (15-25)
Ferritin 262 micromol/l (20-300)
B12 203ng/l (190-900)
Folate 21.6 microg/l
The most likely diagnosis is:

a. Alcohol abuse
b. Fish tapeworm infection
c. Hypothyroidism
d. Myelodysplastic syndrome
e. Pernicious anaemia
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   a. Alcohol abuse
   b. Fish tapeworm infection
   c. Hypothyroidism
   d. Myelodysplastic syndrome
   e. Pernicious anaemia (*)
EM

Additional tests

Positive parietal cell and IF antibodies.
Complete response to B12 replacement.

Diagnosis  PA

Learning point?
Case 2

34 year old woman is admitted on medical take unwell with malaise and a high fever. Temp 39°C. Pulse 105 / min BP 105/64
Patient

Blood count

Hb 98g/l
WCC $2.1 \times 10^9$/l (neutrophils $0.3 \times 10^9$/l)
Platelets $38 \times 10^9$/l

Prothrombin time 21 secs (11-14 secs)
APTT 51 seconds (28-37 seconds)
Patient
Diagnosis

Acute promyelocytic leukaemia

Manage with fluids, IV antibiotics and ATRA (all-trans-retinoic acid)

Learning point?
Case 3

A 78 year old man with myeloma is admitted with a fever.

The creatinine is 780micromol/l.
(12 months earlier, creatinine 125micromol/l)
Urinary light chain excretion is 7615mg/l
The renal biopsy shows

a. Acute tubular necrosis
b. Amyloid deposition
c. Glomerular light chain deposition
d. Myeloma cast nephropathy
e. NSAID toxicity
The renal biopsy shows

a. Acute tubular necrosis
b. Amyloid deposition
c. Glomerular light chain deposition
d. Myeloma cast nephropathy*
e. NSAID toxicity
Causes of Renal Failure in Patients with Myeloma

Acute renal failure
- Dehydration
- Hypercalcaemia
- Infection
- Myeloma Kidney
- NSAIDs

Chronic renal failure
- Irreversible cast nephropathy
- Amyloid
- Light chain deposition
- NSAIDs
Management

Supportive care

Renal support

Reduce light chain concentration

By;
  dialysis
  Chemotherapy
Case 4

A 79 year old man is admitted on medical intake with a stroke.

FBC.
Hb 134g/l
WCC 7.4 x 10⁹/l
Platelets 7 x 10⁹/l
Case 4

CT shows that this is not a haemorrhagic stroke.

There is no other evidence of bleeding
Examination of the blood film shows extensive platelet clumping. This is an in vitro artifact and requires no investigation and no treatment.
Case 5

A 74 year old woman is admitted with an acute coronary syndrome.

FBC
Hb 149g/l
WCC 9.7 x 10⁹/l
Platelets 1654 x 10⁹/l
ET blood film
Differential diagnosis

Essential thrombocythemia

Reactive
  Infection
  Inflammation
  Malignancy
  Iron deficiency
  Bleeding
Diagnosis and management of ET

Diagnosis
  JAK-2, Cal R, MPL

Management
  Anticoagulation
  Hydroxycarbamide
Case 6

A 72 year old man was admitted on medical take with fatigue and shortness of breath;

Hb 43g/l.
MCV 88fl
WCC 6.9 x 10⁹/l
Platelets 322 x 10⁹/l

Additional information?
PMH. Heart transplant 10 years earlier. CKD secondary to CNI toxicity. Renal transplant 4 months earlier. Further history and examination unremarkable. Anaemia unresponsive to ESA. Immunosuppression with CSA and prednisolone. • Blood film.
Reticulocytes 0.1% (10 x 10⁹/l)

Bone marrow.
Showed red cell hypo / aplasia
Bone marrow shows decreased erythropoiesis and a giant proerythroblast.
Diagnosis

The most likely diagnosis is?

a. Aplastic anaemia
b. Bleeding
c. ESA induced red cell aplasia
d. Haemolytic anaemia
e. Parvovirus infection
The most likely diagnosis is;

a. Aplastic anaemia
b. Bleeding
c. ESA induced red cell aplasia
d. Haemolytic anaemia
e. Parvovirus infection (*)
ESAs resistance

True
- Iron deficiency
- Infection
- Inflammation
- Malignancy. e.g. MDS
- Immune

Apparent
- Bleeding
- Haemolysis
Conclusions