NHS
Blood and Transplant

BBTS 2017

Advanced Clinical and laboratory case studies

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Disclaimer

Nothing to disclose

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Case 6

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Case 6

A 52 year old man with history of paranoid schizophrenia presents to A&E with history of abdominal pain, dark urine for 4 days and rectal bleeding. Medication consists of Clopixol twice weekly, Procyclidine and Omeprazole. On examination he is drowsy.

Investigations:

- Full blood count :Hb 95 g/l, white cell count 12.7 x 10^9/l, platelets 9 x 10^9/l
- Red cell fragments on film
- Clotting normal
- U&E normal, LDH 1162 (very high), bilirubin 74 (high), CRP 73 (high)
- No confirmed blood group (unsuitable sample)
- CT scan of head – no abnormality detected
- CT scan of abdomen – no abnormality detected

He is admitted to ITU for treatment and requires insertion of double lumen central line.

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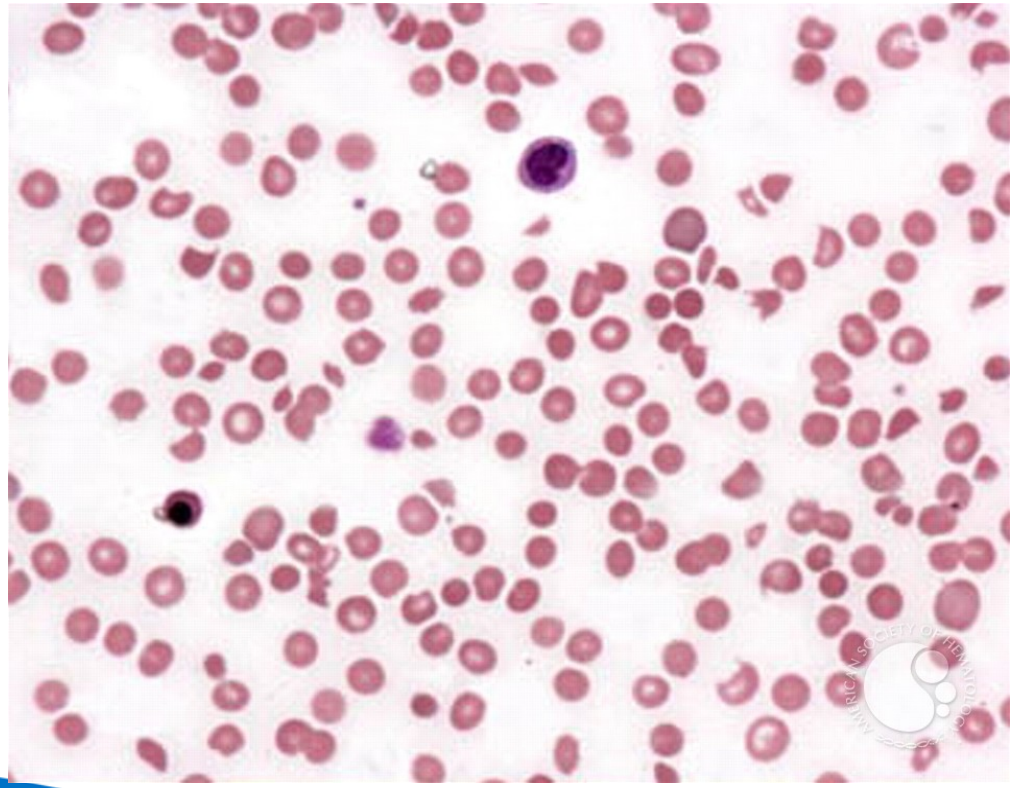
Blood film



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Case 6

Q1

Which of the following blood products or combination of products should be ordered for this patient? (select the most appropriate from the options available)

1. Group O RhD negative platelets
2. Group O RhD positive platelets
3. Group AB SD-FFP + Group O RhD positive platelets
4. Group B FFP
5. None of the above is appropriate

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Case 6

Q1

Which of the following blood products or combination of products should be ordered for this patient? (select the most appropriate from the options available)

1. Group O RhD negative platelets
2. Group O RhD positive platelets
3. Group AB SD-FFP + Group O RhD positive platelets
4. **Group B FFP**
5. None of the above is appropriate

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Case 6

The features are those of a microangiopathic haemolytic anaemia (MAHA)

Thrombotic thrombocytopenic purpura (TTP) is most likely diagnosis

Clinical emergency

Diagnostic test is ADAMTS13 assay (deficient in TTP), result not immediately available

Immediate treatment with plasma exchange is required without waiting for diagnosis confirmation or blood group confirmation

Platelet transfusion may cause thrombosis

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Case 6

Q1

Which of the following blood products or combination of products should be ordered for this patient? (select the best from the options available)

1. Group O RhD negative platelets platelets are contraindicated TTP
2. Group O RhD positive platelets as above
3. Group AB SD-FFP + Group O RhD positive platelets Group AB SD-FFP is appropriate but not platelets
4. **Group B FFP** TTP requires treatment with plasma exchange using FFP as replacement fluid, ideally SD-FFP (e.g. Octaplas) but FFP is acceptable alternative if SD-FFP not immediately available; Group AB is ideal group for FFP if patient group unknown but Group B is acceptable if AB or A not available
5. None of the above is appropriate

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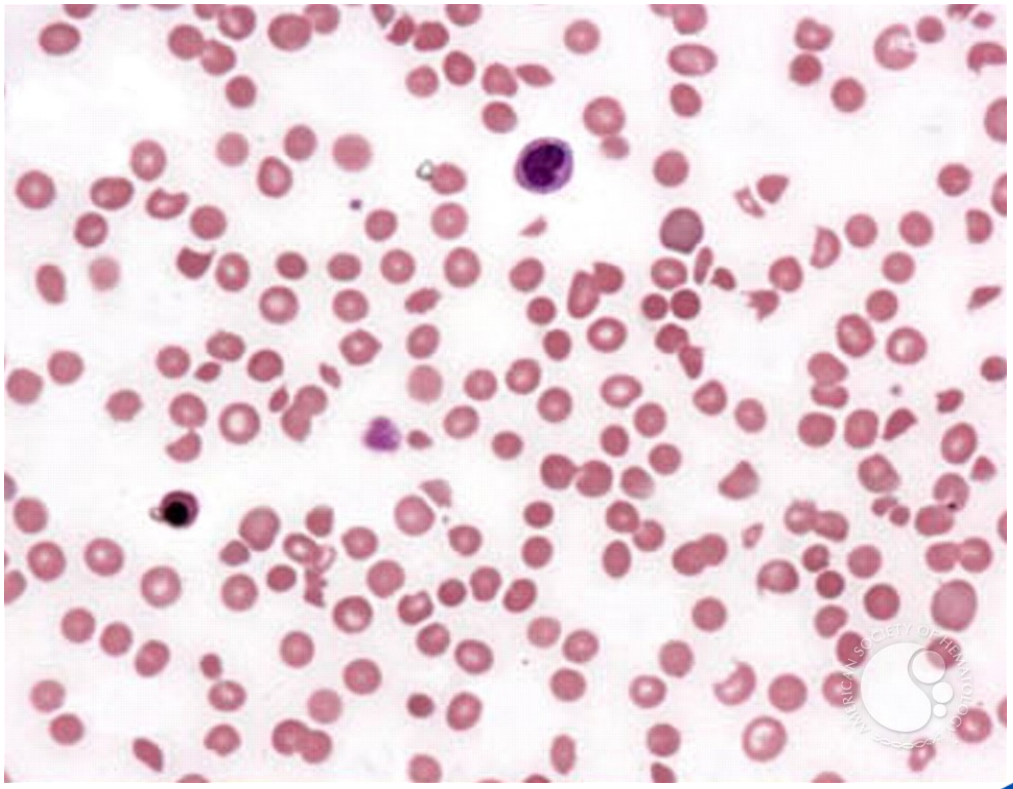
Blood film in TTP



This image was originally published in ASH Image Bank. Author. John Lazarchick Title. Thrombotic thrombocytopenic purpura. ASH Image Bank. Year; 2011image number0001344. © the American Society of Hematology."

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Case 6

Working diagnosis is TTP (thrombotic thrombocytopenic purpura) and he requires treatment with daily plasma exchange (requiring central line).

He becomes agitated and is unable to engage in discussion regarding treatment including placement of central line, transfusion of blood products and plasma exchange.

He is assessed by Consultant Psychiatrist as lacking capacity to consent and a Deprivation of Liberty Safeguards (DOLS) form is completed and authorised.

Case 6

Q2

Who may **consent to treatment** on behalf of this patient?

1. Next of kin
2. Doctor looking after this patient
3. Consultant psychiatrist under terms of DOLS authorisation
4. All of the above
5. None of the above

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Case 6

Q2

Who may **consent to treatment** on behalf of this patient?

1. Next of kin
2. Doctor looking after this patient
3. Consultant psychiatrist under terms of DOLS authorisation
4. All of the above
5. **None of the above** No-one can give consent in this case but doctors looking after the patient can make decision to treat if assessed as in patient's best interest

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Case 6

He is started on twice daily plasma exchange with Octaplas. During procedure number 5, shortly after commencement of third pack of Octaplas, the patient complained of feeling ‘funny’, with tingling, nausea, abdominal cramps and a vibrating sensation.

Case 6

Q3

What action(s) should be taken?

1. Keep calm and carry on
2. Stop the procedure immediately
3. Slow down the procedure and give calcium if no improvement
4. Slow down the procedure and administer antihistamine (Chlorpheniramine) and hydrocortisone
5. Replace the Octaplas with standard FFP

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Case 6

Q3

1. What action(s) should be taken?
2. Keep calm and carry on
3. Stop the procedure immediately
4. **Slow down the procedure and give calcium if no improvement** these are classic symptoms of hypocalcaemia due to citrate toxicity
5. Slow down the procedure and administer antihistamine (Chlorpheniramine) and hydrocortisone
6. Replace the Octaplas with standard FFP

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Case 6

Citrate toxicity during plasma exchange

- ACD (adenosine citrate dextrose) anticoagulant in blood pack
- ACD infusion also used as anticoagulant for plasma exchange

Self assessment (Andy Houghton scale)

Score 13 or more

Transfusion practitioner

Score 10-12

Blood bank manager

Score 9-10

Medical SHO

Score 8 or less

Professor of Haematology


Haste ye back
SEC
Scottish
Event
Campus
SEC
Armadillo
SEC
Centre
THE SSE HYDRO
CCTV
Surveillance in operation