Dialogue between Clinician and Pathologist on CBC report

Dr. Seema Bhatwadekar
Haematologist, Oncohaematologist & Transplant Physician
Vadodara.
CBC PBS

Most important test to make probable diagnosis

Crucial role to decide further work up

- Infection
- Haematolgical Malignancy
- Chronic inflammation, Auto immune
- Haemoglobinopathy
- Lead Poisoning
CBC PBS

No Further work up

- Nutritional anemia
- Pseudothrombocytopenia
- Certain acute leukemia
Value addition by Pathologist

- Input on PBS morphology
- Interaction with clinician

Treatment and outcome of patient
CBC report

Call from clinical assistant
- 28yr old female
- Primipara
- Post LSCS

SMS by lab technician
- HB 6gm%
- TLC 16200/cumm
- PLT 15000/cumm
Treatment given

- PCV/Fresh whole blood
- PRP/PC/SDP
- Broad spectrum antibiotic
Scenario 1

6/16200/15000
PBS
Microcytic hypochromic RBC
Leucocytosis, neutrophilia no toxic changes.
No blast
PLT count approx 20000/cmm, presence of giant plateletes

Thrombocytopenia with blood loss anemia
? ITP

PT, PTT, LFT, Creatinine, PS for MP, Dengue, HIV, HBsAG, HCV, ANA
Bone Marrow
USG Abdomen, CXR,

Diagnosis is made by exclusion.

1 in 1000 present with life threatening bleed.

85% patients will respond to Steroids.
ITP (Change in treatment plan)

- Steroids
- IVIG
- Anti D
- Iron supplements

- PLT count of neonate at day 1 and 4

How I treat thrombocytopenia in pregnancy
Terry Gernsheimer1,*, Andra H. James2,*, and Roberto
January 3, 2013; Blood: 121 (1)
Scenario 2

6/16200/15000
PBS
Macrocytic RBC, Many Microsperocytes, No schistocytes
Polychromasia
Leucocytosis, neutrophilia no toxic changes
PLT count approx 10000/cmm

Thrombocytopenia with Haemolysis
? Evans Syndrome

DCT
PT,PTT,LFT,Creatinine,
PS for MP, Dengue HIV, HBsAG, HCV, ANA
USG Abdomen, CXR

Auto immune activity against RBCs and Platelets

Needs aggressive immunosuppression
Evans Syndrome
Change in treatment plan

- Steroids
- Rituximab
- Splenectomy
- High dose Cyclophosphamide
- Danazol
- Mycophenolate mofetil

B12 and Folic acid supplementation

PLT count of neonate at day 1 and day 4
Scenario 3

6/16200/15000

PBS

Normocytic normochromic RBC, More than 2 to 3 Schistocytes per oil field
Leucocytosis, neutrophilia no toxic changes
PLT count less than 5000/cumm
?Postpartum Thrombotic Thrombocytopenic Purpura

LDH
PT,PTT,LFT,Creatinine,
PS for MP, Dengue HIV, HBsAG, HCV, ANA
USG Abdomen, CXR

Platelet transfusion is contraindicated

If left untreated more than 90% mortality

Needs urgent intervention
TTP (Change in treatment plan)

- Plasma exchange
- Steroids
- Rituximab

Thrombotic thrombocytopenic purpura and pregnancy: presentation, management, subsequent pregnancy outcomes
Marie Scully1, Mari Thomas2, Mary Underwood
July 10, 2014; Blood: 124 (2)
Scenario 4

6/16200/15000

PBS
Anisopoikilocytosis, Many schistocytes
Leucocytosis, neutrophilia, toxic changes
PLT count approx 10000/cmm, presence of giant plateletes
Postpartum Septicemia with DIC

PT, PTT, Fibrinogen,
LFT, Creatinine,
PS for MP, Dengue HIV, HBsAG, HCV
Blood and Urine culture

USG Abdomen, CXR,

Evaluation to find out root cause

Success rate is high.
Septicemia with DIC
Change in treatment plan

- Shift patient to Institute
- Involve team
- FFP, Cryo, PCV
- Antibiotics
- Treatment for underlying cause of septicemia

Scenario 5

6/16200/15000

PBS

Microcytic hypochromic, macro ovulocytic RBC, Many Schistocytes

Leucocytosis, Presence of abnormal promyelocytes with granular cytoplasm and aurr rods

PLT count approx 5000/cmm
Acute Promyelocytic Leukemia

Bone Marrow, CD Marker for acute leukemia, RT PCR for PML RARA, Cytogenetics

PT, PTT, LFT, Creatinine,
PS for MP, Dengue HIV, HBsAG, HCV, ANA
USG Abdomen, CXR,
APML (Change in treatment plan)

- Shift patient to Institute
- Involve Haemato-Oncology team
- FFP, Cryo
- Antibiotics
- Arsenox/ATRA
- Chemotherapy
- High cure rate

How I treat acute promyelocytic leukemia

Martin S. Tallman¹ and
Jessica K. Altman¹

December 10, 2009; Blood: 114 (25)
Dialogue

- Helps in saving life
- Decreases financial burden
- Whenever in doubt ask Colleague/Haematologist
ACKNOWLEDGEMENTS

- Dr. Shashi Apte, SSH Pune
- Sterling Hospital, Vadodara
- Lab core Laboratory
- Haemocare Staff
- Shrinivas Amita Advait
THANK YOU