Clinical Pathology Appointment

(Document prepared by Dr N. Ekanayake and Dr D. M. Dissnayake for curriculum review work shop for clinical appointments on 16th June 2010)

Duration of the appointment 3 weeks: Duration of 4 weeks has been cut down to 3 weeks without informing the pathology team

1 week : Blood bank (G. H. Kandy)
1 week : G. H. Kandy (Path lab)
1 week : G. H. Peradeniya (Path Lab)

Blood transfusion: 1 week at G. H. Kandy

Class 1 : Blood grouping

1. To know the basis of ABO and Rh grouping
2. To know rare blood groups eg. Bombay O blood group, Kell
3. To be able to do blood grouping (serum grouping and cell grouping and discrepancies in serum and cell grouping)
4. To know the basis and procedure for neonatal blood grouping

Class 2 : Cross match

1. To know the indications for cross match
2. To know the basis and procedure for emergency cross match
3. To know the basis and procedure for routine cross match
4. To be able to do emergency and routine cross match

Class 3:Blood components and products

1. To know the different types of blood components (whole blood, packed cells, leucodepleted red cells, washed red cells, frozen red cells, buffy coat, platelet concentrates, fresh frozen plasma, cryo precipitate, cryo poor plasma, stored plasma
2. To know the time frame for production of blood components
3. To know the indications and dosage for each components,
4. To know the complications of transfusion of blood components
5. To know the storage conditions and expiry times for each component

Class 4 : Blood donor recruitment and screening

1. To know the transfusion transmitted infections
2. To know the criteria for donor recruitment
3. To know the risk assessment for transfusion transmitted infections
4. To know the screening and diagnosis of transfusion transmitted infections in blood transfusion practice

Class 5 : Adverse effects of blood transfusions

1. To know the different types of adverse effects of transfusion (immediate and late)
2. To know how to diagnose each type of adverse effect
3. To know the laboratory investigation to confirm or rule out each adverse effect
4. To know the clinical management of each
5. To know how to prevent the adverse effects

Class 6: Assessment Viva

To speak to Director national Blood transfusion centre regarding consumables for the practicals

1 Week : G. H. Kandy:

<u>Class1 :In relation to Anaemia</u>
Student should be able to

1. List 3 main/ common causes of aneamia in Sri Lanka
2. Sate the laboratory tests used in the confirmation of diagnosis
3. State the management of patients with anaemia
4. Educate the patient to prevent anaemia
5. Counsel patients and family of those with genetic blood disorders which cause anaemia

<u>Class 2: Bleeding disorders</u>
Student should be able to

1. Take a detailed history perform clinical examination of a patient with bleeding
2. Arrive at a differential diagnosis
3. State the laboratory tests required for confirmation of diagnosis
4. State the clinical management of such a patient
5. Give advice to patient and family to prevent bleeding
6. Counsel the patient and family in case of genetic bleeding disorders.

<u>Class 3 :In relation to haematological malignancy</u>
Student should be able to

1. Take a history, clinically examine a patient who has haematological malignancy
   (e.g. Leukaemia, lymphoma, myeloma)
2. State the laboratory test/s that would be carried out to confirm diagnosis
3. State the management of such a patient
4. State the follow up of such a patient in the clinic
5. educate the patient, family on what to do and various contraindications

Class 4 : In relation to anticoagulants

Student should be able to

1. Define anticoagulants and state names of commonly used oral parental anticoagulants
2. State the Indication, contraindication for each one of those
3. State the duration of use of each of those
4. State the tests need to be performed during follow up
5. State complications
6. Discuss the plan of action in a patient on anticoagulants in pregnancy, before surgery

7. Explain to a patient why you need to do a venepuncture
8. Student should be able to perform a clean venepuncture
9. Student should be able to **s**elect the correct tube / correct syringe to draw blood
10. Student should be able to **s**tate how much anticoagulant to put into each tube
11. Student should be able to **s**elect the correct control for the patient
12. To be able to interpret test reports
13. To be able to state what steps to take in case of abnormality, whom to inform
14. To be able to label bottles accurately
15. To be able to write request forms (Decide on when to order routine and urgent tests)

Class 5: Aspiration cytology

To be able

1. to state the indications for FNAC and cytology examinations
2. to know the procedure of FNAC and cytology examinations
3. to know collection of specimens in FNAC and cytology
4. to know the transport of specimens for FNAC and cytology
5. to know different types of staining
6. To be able to interpret the reports and to know when to communicate with clinician urgently.

Class 6 : Assessment : Viva

G. H. Peradeniya : 1 week

Class 1 : Specimen collection

To know

1. indications for different types of specimens,
2. the importance of preparation of patient for laboratory investigations,
3. types of containers and anticoagulants, transport of specimens to the laboratory.
4. Indications for urgent laboratory investigations,
5. requesting appropriate laboratory investigations
6. interpretation of results in relation to the clinical findings.

Class 2 : Urine analysis

To know

1. How to educate the patient on collection of relevant samples of urine specimens (early morning, mid stream, random , catheter samples and 24 hr urine sample etc)
2. Procedure for urine analysis (physical, chemical and deposit)

To be able to

3. do the biochemical testing for reducing substances, proteins, ketone bodies, bile and urobilinogen
4. do the deposit examination
5. identify red cells, pus cells, casts, epithelial cells and spermatozoa

Class 3 : CSF analysis and body fluid analysis

To know

1. indications for CSF examination and body fluid analysis
2. the procedure for specimen collection (types of specimens, containers, additives to containers and transport of CSF specimens
3. Procedure of CSF examination,
4. interpretation of CSF reports.
5. Differentiation of exudate from transudate in body fluid analysis.

Class 4 : Seminal fluid analysis

To know the

1. Indications for seminal fluid analysis,
2. instructions to the patient before collecting the specimen
3. Procedure for seminal fluid analysis
4. interpretation of the report

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Class 5 : Interpretation of biochemical tests :

To know the

1. Interpretation of liver function tests in acute hepatitis, chronic hepatitis, obstructive jaundice, infiltrations and other liver diseases.

2. Interpretation of the renal function test in renal disease.

3. Interpretation of enzyme tests in myocardial infarction, liver disease, bone disease.

4. Interpretation of tests of glycaemic control and their advantages & disadvantages & GTT

5. GTT and GCT in the diagnosis of diabetes mellitus and in impaired glucose tolerance (Advice to patients on preparation for GTT and GCT and interpretation of these test results).

6. Interpretation of lipid profiles in hyperlipidaemias and preparation of patients for lipid profile.

7. Interpretation of thyroid profiles and infertility investigation

Class 6: Assessment : Viva

Haematology -- Kandy

Programme

1st Week

1st Day - Introduction to Medical Laboratory and specimen collection plus Histopathology laboratory – Orientation

2nd Day - Specimen collection for biochemical studies and enzymes

3rd Day - Sample collections for microbiological studies and some procedures regarding microbiology studies

4th Day - Serum & urine electrophoresis and multiple myloma.

5th Day - FNA and demonstration of the procedure

2nd Week Haematology

- Dr. (Mrs.) P. Wijenayake - Consultant pathologist, Head, Department of Pathology, TH, Kandy.
- Dr. (Mrs.) Kusala Peiris - Consultant pathologist, TH, Kandy.
- Dr. (Mrs.) V. Thevakumar - SR, Histopathology
- Dr. R.S. Jayamuni - Registrar, Histopathology
- Dr. S.W.K. Dasanayake - Post Graduate trainee

Dr. (Mrs.) Padmini Wijenayake,
Consultant Pathologist,
Teaching Hospital,
Kandy.

Clinical Pathology
Faculty of Medicine – Peradeniya

Clinical Pathology

This three week clinical clerkship comprises of one week appointments at,

1. Blood bank, General Hospital Peradeniya for transfusion medicine, and Hospital laboratory – General Hospital Peradeniya for clinical pathology
2. Haematology Laboratory – G. H. Kandy for haematology and
3. Histopathology Laboratory – G.H. Kandy for Histopathology

Essential knowledge: Clinical Pathology Appointment

At the end of the appointment student should know

8. The types of specimens, indications for these specimens, preparation of patient for investigations, types of containers and anticoagulants, transport of specimens to the laboratory.

9. Indications for urgent laboratory investigations, requesting appropriate laboratory investigations and interpretation of results.

10. Procedure for urine analysis, biochemical analysis, deposit examinations and types of urine specimens.

11. Procedure for CSF examination, collection of CSF specimen and interpretation of CSF reports. Differentiation of exudate from transudate in body fluid analysis.

12. Indications for seminal fluid analysis, instructions to the patient before collecting the specimen and interpretation of the report.

13. Interpretation of liver function tests in acute hepatitis, chronic hepatitis, obstructive jaundice, infiltrations and other liver diseases.

14. Interpretation of the renal function test in renal disease.

15. Interpretation of enzyme tests in myocardial infarction, liver disease, bone disease.

16. Interpretation of tests of glycaemic control and their advantages & disadvantages & GTT and GCT in the diagnosis of diabetes mellitus and in impaired glucose tolerance.

17. Interpretation of lipid profiles in hyperlipidaemias and preparation of patients for lipid profile.

Essential knowledge: Blood Transfusion Medicine

At the end of the appointment the student is expected to know

1. Procedure for blood grouping and cross matching.
2. Indications for blood products with storage conditions for each of the blood product.
3. Donor recruitment and venesection procedure and its complications.
4. Donor screening and pre-transfusion infection screening tests.
5. Adverse effects of blood transfusion.
6. Investigation of mismatched transfusion.

Observe following procedures

1. Donor recruitment
2. Venesection procedure
3. Preparation of blood products
4. Pretransfusion testing and screening for infections

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