UNIVERSITI SAINS MALAYSIA

FELLOWSHIP PROGRAMME

DEPARTMENT OF HAEMATOLOGY

WORKING GROUP

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FELLOWSHIP IN HAEMATOLOGY

Introduction:

The USM Hematology Fellowship training program is an exclusive pathway that offers pathologist/physicians the opportunity to pair comprehensive classical hematology training with career-enhancing education in blood and bone marrow disorder (adult and paediatric), flowcytometry, hemostasis and thrombosis, molecular genetics, transfusion medicine, and stem cell transplantation as well as fields like laboratory management and safety, quality management and research opportunities.

Duration of training:

3 months -12 Months, full time or part time (or duration as recommended by the RCPA for RCPA trainee only).

Training centre:

Haematology laboratory and Transfusion Medicine Unit, School of Medical Sciences/Hospital USM, 16150 Kubang Kerian, Kelantan.

Entry requirement/Eligibility:

Specialist Pathologist or trained medical doctors who wish to undergo clinical attachment in Haematology laboratory or to pursue for RCPA fellowship.

Objectives of program:

This training is intended to provide short term learning programme or opportunities to haematopathologist/physician who wish to pursue early carrier professional in subspecialty in haematology and transfusion medicine field. This training aims to provide and promote knowledge and expertise in the area in term of clinical, management and laboratory investigations and technical aspect involve in the expected training field and to improve on discipline-specific functions and clinical ability as a medical specialist in the laboratory as well as to enhance the professional qualities and personal characteristics as medical specialist.

The specific objective of the training program includes:

1. To have advanced knowledge of the anatomy, physiology, biochemistry and molecular biology of the cellular and protein elements of blood and of the haematopoietic, lymphatic, vascular and reticuloendothelial systems;
2. To have advanced knowledge of pathophysiology of haematological disorders;
3. To have theoretical and practical knowledge of the full range of haematological laboratory investigations performed in and referred from a tertiary referral hospital;
4. To be familiar with laboratory organisation and management, safety, equipment selection and maintenance, quality control, external and internal quality assurance and quality improvement;
5. To be able to set up new test methodologies and be responsible for quality assurance;
6. To understand the principles of and interpretation of tests performed in other disciplines which are relevant to haematology practice, including methodologies in molecular biology, immunology, biochemistry, cytogenetics and tissue typing,

7. To understand the principles, application, interpretation and limitations of haematological tests in relation to clinical problems;
8. To have advanced knowledge of transfusion medicine, including aspects of donor selection, blood product collection, preparation, storage and distribution, supply, pre-transfusion testing and transfusion safety;
9. To understand clinical/laboratory liaison issues in transfusion safety including patient/specimen identification and the diagnosis and management of adverse transfusion-related events.

ACTIVITIES/TASK DURING ATTACHMENT (BASED ON THE SUBSPECIALTIES)

General haematology:

1. To be familiar with laboratory organisation and management, safety, quality control, proficiency testing and quality improvement.
2. To understand the principles, application, interpretation and limitations of haematological tests in relation to clinical problems
3. To be able to interpret and report laboratory test results, in accordance with patients' clinical presentation under supervision.
4. To notify abnormal/critical results to pathologists and/or requesting clinicians.

Hemoglobin analysis and molecular for hemoglobinopathies & thalassemia

1. Familiarize with the scope of hemoglobin analysis and molecular for hemoglobinopathies & thalassemia
2. Understand the workflow and specimen handling.
3. Understand the principles of the tests
4. Apply the knowledge for interpretation of the haematological tests under direct supervision.
5. Apply the knowledge of these specialized haematology areas for diagnosis and management decisions.

Flowcytometry:

1. To comprehend the principle of the flow cytometric immunophenotyping test.
2. To familiarise with the preanalytical, analytical and post-analytical in flow cytometric immunophenotyping testing.

3. Understanding and able to interpret cases of Acute Leukaemia, Lymphoma, plasma cell disorders, etc.
4. Capable of interpreting minimal residual disease monitoring in B-ALL by flow cytometric immunophenotyping method

Hemostasis and thrombosis:

1. Familiarize with the scope of haemostatic investigation, STM in haemostasis section
2. Understand the workflow and specimen handling.
3. Understand the critical processes including problems and important issues in haemostasis laboratory.
4. Familiarize with the common and rare clinical conditions including references and guidelines.
5. Familiarize with investigations of bleeding disorders, thrombophilia and liaison cases.

Genetic testing:

1. Familiarize with the scope of hematology genetic testing.
2. Understand the workflow and specimen handling.
3. Understand the principles of the tests
4. Apply the knowledge for interpretation of the haematological tests under direct supervision.
5. Apply the knowledge of these specialized haematology areas for diagnosis and management decisions.

Transfusion Medicine:

1. Employ theoretical and practical knowledge on aspects of both laboratory and clinical aspects of transfusion medicine in the managment of both laboratory and patients
2. Manage independently a hospital transfusion laboratory
3. Provide clinical consultation on transfusion related problems
4. Managing with supervision a regional blood centre

Haemopoietic Stem Cell Collection, Processing and Storage:

1. Understand and perform PBSCT mobilization, harvesting and infusion
2. Understand and perform stem cell processing, cryopreservation and storage
3. Perform and calculate CD34+ cell enumeration, dosage and viability
4. Understand chimerism/engraftment monitoring
5. Apply the knowledge the transfusion management in blood group incompatible transplants
6. Understand and apply the quality and laboratory management in SC service – lab set up and safety, quality assurance, STM

Assessment:

The assessment of the trainee is carried out at the workplace mainly through formative by supervisor feedback and filling of logbook and submission which encapsulates individual activities that are integral to the trainee's attachment and activities in the laboratory.