

Faculty of Medicine



HEMA3100 Methods in Haematological Biology

[20h+10h exercises]

Teacher(s): Bernard Chatelain, Véronique Deneys, Jean-Marie Scheiff (coord.)
Language: French
Level: Third cycle

Aims

Explanation of the methods used in morphology, immuno-haematology, blood transfusion and haemostasis. Teaching interpretation of the results in relationship with the clinical situations. Quality control and general organization in a Haematology Lab.

Main themes

Morphology (5 hours) :

- Automated counting of the blood cells
- Errors in an Haematological Morphology Lab
- Quality control (including the evaluation of an automated haematology counter)
- Microscopy : principles, special optical systems, electron microscopy
- General morphological methods : harvesting, fixation, differentiation,#
- Special morphological methods : cytochemistry, cytoenzymology, immunocytochemistry, autoradiography

Immuno-haematology (5 hours) :

- Blood groups
- Irregular anti-erythrocyte allo-antibodies
- Anti-erythrocyte auto-antibodies
- Pretransfusion cross-matching
- Flow cytometry : principles and applications

Transfusion (4 hours) :

- Blood donation
- Organization in a blood transfusion centre
- Red cell transfusion
- Labile and stable blood components
- Transfusion complications

Haemostasis (6 hours) :

- Routine tests in coagulation
- Specific quantitative analysis of factor VIII, von Willebrand, IX, XI, XII, and prenatal diagnosis of haemophilia and von Willebrand disease
- Specific quantitative analysis of factor I, II, V, VII, X
- Dysfibrinogenemia evaluation
- Thrombophilic evaluation
- Activation markers in haemostasis
- Screening and quantitative analysis of natural and pathological coagulation inhibitors
- Control of the efficacy of anticoagulant and anti-aggregation treatment
- Evaluation of the fibrinolysis and control of thrombolytic treatment

Content and teaching methods

Lecture and practice.

Practical teaching of the medical doctors and pharmacists in training, about the medical supervision of the emergency tests (haemostasis, blood transfusion and morphology)

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Evaluation :

-written and oral examination (theory)

-practical evaluation after a 6 months training period

Programmes in which this activity is taught**BCMM3DS****SBIM3DS/TA** Diplôme d'études spécialisées en sciences biomédicales
(Toxicologie analytique)**SBIM3DS/TC** Diplôme d'études spécialisées en sciences biomédicales
(Toxicologie clinique)**SBIM3DS/TE** Diplôme d'études spécialisées en sciences biomédicales
(toxicologie expérimentale)**Other credits in programs****FARM32DS/BI** Deuxième année du diplôme d'études spécialisées (biologie clinique) (biologie clinique) Mandatory**FARM33DS/BI** Troisième année du diplôme d'études spécialisées en sciences pharmaceutiques (biologie clinique) (biologie clinique) Mandatory