UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Clinical Pathology

2021-2-H4601D005-H4601D019M

Aims

Preparation of expert odontologists by the acquisition of knowledge in different disciplines:

- Clinical Pathology: meaning of laboratory tests, their clinical and scientific relevance and their appropriate use.

Contents

The course will provide,

- Clinical Pathology: the contribution of Clinical Pathology -in promoting health at the level of prevention, diagnosis and cure, -defining the etiopathogenesis of the different pathological situations, -evaluating the functional alterations of organs and control mechanisms at the different integration of structures, functions and organism in relation with the knowledge of physiology and pathology acquired during the present year. Basic principles, arising from physiopathological knowledge, for prescription and interpretation of lab test results, hints at differential diagnosis. Knowledge about the methodology of Clinical Pathology lab, hints on collection, transport and storage of biological samples; the key role played by health operators on the efficiency of National Health Service performing appropriate prescription and interpretation of lab tests.

These issues will be highlighted in the course of the systematic part described in the extensive program.

Detailed program

- Clinical Pathology: the contribution of Clinical Pathology -in promoting health at the level of prevention, diagnosis and cure, -defining the etiopathogenesis of the different pathological situations, -evaluating the functional alterations of organs and control mechanisms at the different integration of structures, functions and organism in

relation with the knowledge of physiology and pathology acquired during the present year.

Reminders of characteristics of tests and methods of Clinical Pathology Lab: Error, Precision, Accuracy, Sensitivity, Specificity, predictive value. Request of lab tests in the NHS.

Basic principles, arising from physiopathological knowledge, for prescription and interpretation of test results with hints at differential diagnosis using the following lab tests:

-Anemia: Hemochromocytometric test

-Congenital and/or acquired coagulation defects: Prothrombin Time , International Normalized Ratio (INR) Activated Partial Thromboplastin Time, Fibrinogen, Coagulation factors

-Inflammation: Erythrocyte Sedimentation Rate, C-Reactive protein

-Proteins: Electrophoresis, Specific proteins

-Immunology, Allergology: Autoimmunity Test, Total and specific IgE.

-Blood group

-Liver function: Alanine aminotransferase, Aspartate aminotransferase, Bilirubine, Alkaline phosphatase, Gamma-glutamyl transpeptidase, Serological test for the detection of hepatitis.

-Kidney function: plasma Creatinine, Estimated Glomerular Filtration Rate, Urinalysis

-Tumors: specific markers

Test in multi-organ pathologies: -Diabetes: plasma Glucose, daily glycemic profile, Oral Glucose Tolerance Test, Glycated hemoglobin. -Atherosclerosis: lipid profiles -Myocardial infarction: Troponin

Prerequisites

The goals of the previous courses

Teaching form

Frontal lessons.

in the period of Covid-19 emergency, lessons will be provided by asynchronous/synchronous recorded lessons

Textbook and teaching resource

- Burtis-Tietz, Textbook of Clinical Chemistry and Molecular Diagnostics Ed Saunders 2006

- Henry – Clinical diagnosis and management by laboratory methods Ed Saunders 2007

- Hovanitz – Laboratory Medicine Ed. Churchill Livingstone 1991

Semester

Second semester (March-June) of the second year course

Assessment method

Oral examination.

In the period of Covid-19 emergency the oral examination will be telematic, using the WebEx platform.

The oral examination will be preceded by a written multiple-choice test, comprising 90 questions with only one correct answer (among 4), aimed at evaluating global comprehension of microbiology program. The text will be passed with 51 exact answers, the value of each exact answer is 0.35 point.

The oral examination consists in the discussion of the remaining part of the integrated course, aimed at verifying the student ability to make connections and provide details. The final score will be the weighted mean of the two tests

Office hours

by appointment