UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Neuroradiology

2324-5-H4102D034-H4102D183M

Aims

The purpose of the course is to provide elements to understand the basics of imaging techniques: computed tomography (CT) and magnetic resonance imaging (MRI) to interpret patient's studies in the context of the main differential diagnosis on the basis of clinical history and neurological objectivity; understand the appropriate assessments, the technical issues of their execution and the priority level of each modality. Particular attention will also be given to the aspects of communicating with colleagues and writing the report.

Contents

The following main pathologies of the Central and Peripheral Nervous System will be addressed: acute cerebrovascular diseases (ischemic strokes, cerebral hemorrhages, cerebral venous thrombosis) throughout their course of treatment, degenerative diseases (Alzheimer's and Dementia; Parkinson's and other movement disorders; Amyotrophic Lateral Sclerosis and other motor neuron diseases); inflammatory diseases of the Central Nervous System (multiple sclerosis, neuromyelitis optic spectrum diseases); encephalopathies / encephalitis (toxic, dysmetabolic, autoimmune, infectious, paraneoplastic); diseases of the neuromuscular junction (myasthenia and myastheniform syndromes); diseases of the peripheral nervous system; epilepsy; headache and cranial neuralgia; sleep disorders; syncopes and diseases of the vegetative nervous system.

Detailed program

1. Clinical approach and management of the patient presenting with acute stroke
2. Diagnosis and management of the patient affected by MS

3. Differential diagnosis and management of the patient presenting with cerebral tumours
4. Clinical approach, diagnosis, correct imaging, and management of the patient with neck pain
5. Clinical approach, diagnosis, right imaging of the patient with disk herniation
   The program of the course considers the following sustainable development goals of WHO by 2030:
   Goal 3: (healthy lives and promoting well-being) to gain knowledge and manage physical and mental health preventing health risks.
   Goal 4 (Quality of Education) to ensure that all learners acquire the knowledge and skills needed to promote their sustainable development and grow.

Prerequisites

Knowledge of the neuroanatomy and physiology of the nervous system; knowledge of the technical bases of CT, ultrasound and MRI

Teaching form

Practical guided observation activities with briefings and debriefings by hospital tutors in the below mentioned units.

Textbook and teaching resource

Semester

first semester

Assessment method

Students will be divided into small groups of 5-6 students who will rotate in the different neuroradiological clinical areas: CT of the emergency room, CT of the ward, MRI 1.5 T, MRI 3 T and intraoperative MRI. Students will be invited to collect the anamnesis in person and discuss it with their tutor, as well as to perform the imaging study in the presence of the tutor who will guide them in the execution and interpretation of the results based on the neurological and neuroradiological semeiotic. Together with the tutor, the diagnostic hypotheses and the indication of the examinations to be prescribed will be discussed. Limits and usefulness will be indicated for each neuroradiological study method, with a particular eye on the critical area, prognostics, early diagnosis of complications and monitoring of the clinical-functional evolution of the neurological patient. Interventional techniques for both the brain and the spine will also be explored.

Office hours

by appointment

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION | GENDER EQUALITY