UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Gastroenterology and Hepatology III

2627-5-H4102D060-H4102D199M

Aims

To integrate the clinical aspects of the digestive tract presented during the frontal lessons with more specific knowledge about imaging diagnosis by radiological assessment:

1. To provide the basic knowledge of the available imaging modalities for the study of the liver, pancreas and GI system.
2. To understand the indications for the specific imaging modality with awareness of the major strenghts and limits of each radiological tool with some tricks for better patient's selection.
3. To see closely how the different imaging modalities work in different clinical scenarios
4. To increase the interest towords non- o mini-invasive diagnosis of gastrointestinal and hepatobiliopancreatic diseases.

Tuning matrix:
Demonstrate the ability to effectively manage the biomedical technologies in use by the national health system, to collect, analyze and interpret data, and to make decisions in and for multidisciplinary environments.

Learning outcomes according to the Dublin Descriptors
1. Knowledge and understanding
At the end of the module, students will have acquired knowledge of the main imaging modalities used in the assessment of liver, biliary tract, pancreatic and gastrointestinal diseases.
Students will understand the principles, indications, strengths and limitations of ultrasound, computed tomography and magnetic resonance imaging, including the role of contrast agents in different clinical scenarios.
They will acquire specific knowledge of the radiological assessment of benign and malignant liver lesions, biliary diseases, pancreatic inflammatory and neoplastic disorders, inflammatory bowel diseases, gastrointestinal cancers and neuroendocrine tumours.
Students will also understand the role of imaging in non-invasive and minimally invasive diagnostic pathways and in the multidisciplinary management of gastrointestinal and hepatobiliopancreatic diseases.

2. Applying knowledge and understanding

Students will be able to apply the acquired knowledge to the selection of the most appropriate imaging modality according to the clinical question and the patient's characteristics.
They will be able to interpret, at a basic level, imaging findings related to the main diseases of the liver, biliary tract, pancreas and gastrointestinal tract, correlating them with clinical, laboratory and semiological data.
Students will also be able to recognize the practical role of ultrasound, CT and MRI in diagnosis, staging, follow-up and therapeutic planning.
Through attendance during imaging examinations, interactive lectures, PBL sessions and multidisciplinary case discussions, students will progressively apply radiological knowledge to real clinical scenarios.

3. Making judgements
Students will develop the ability to critically evaluate the appropriateness of different radiological investigations in relation to specific clinical problems.
They will be able to consider the diagnostic advantages and limitations of each imaging modality, including safety issues, patient selection, expected diagnostic yield and clinical impact.
Students will also be encouraged to collect, analyse and interpret imaging and clinical data in order to support decision-making within multidisciplinary environments.
The module will promote autonomous judgement in the choice and interpretation of imaging strategies for gastrointestinal and hepatobiliopancreatic diseases.

4. Communication skills
Students will be able to communicate imaging-related clinical information using appropriate medical and radiological terminology.
They will develop the ability to discuss imaging findings and diagnostic strategies with radiologists, gastroenterologists, hepatologists, surgeons and other healthcare professionals within a multidisciplinary team.
Students will also be able to explain, in clear and understandable terms, the purpose and general implications of imaging investigations to patients, when appropriate.
The module will strengthen communication skills through interactive teaching, multidisciplinary case discussion and supervised clinical observation.

5. Learning skills
Students will acquire the learning skills necessary to further develop their knowledge of diagnostic imaging in gastroenterology, hepatology and hepatobiliopancreatic diseases.
They will be able to use clinical cases, imaging reports, radiological images, scientific reviews, educational papers and biomedical databases to improve their diagnostic reasoning.
The module will promote autonomous and continuous learning through interactive lectures, practical attendance during imaging examinations, PBL sessions and multidisciplinary discussion.
Students will progressively develop the ability to integrate clinical and imaging information and to update their knowledge on radiological techniques and their clinical applications

Contents

Deepening on imaging techniques applied to the study of the liver, biliary tract, pancreas and gastrointestinal tract.
Evaluation of the usefulness of various radiological modalities in different clinical scenarios.

Detailed program

-Liver:
Ultrasound, CT, MR - contrast agents - clinical indications
Benign liver lesions

Malignant liver tumors
-Biliary tree:
Ultrasound, CT, MR - contrast agents - clinical indications
Congenital anomalies
Infections
Autoimmune inflammatory diseases
Biliary cancer
-Pancreas:
Ultrasound, CT, MR - contrast agents - clinical indication
Acute and chronic pancreatitis
Autoimmune pancreatitis
Benign pancreatic lesions
Cystic tumors and premalignant lesions - classification and follow up
Pancreatic cancer
Neuroendocrine tumors - classification and clinical implications
-GI:
Ultrasound, CT, MR - contrast agents - clinical indications
Congenital anomalies
Functional disorders
Inflammatory bowel diseases
Esophageal, gastric and colorectal cancer
Neuroendocrine tumors

Prerequisites

Propaedeutic skills and advanced knowledge in anatomy, semeiology, biology and molecular biology.

Teaching form

Alternating practical sessions in the medical units and interactive activities as follows:
Lectures with interactive presentation and discussion.
PBL sessions
Multidisciplinary cases discussions
Inpatients & Outpatients activities:
Ultrasound, Computed Tomography and Magnetic Resonance - attendance during exam execution.

In case of pandemic resurgence the lessons will be through webinar.

Textbook and teaching resource

Reviews and educational papers available on https://pubs.rsna.org/journal/radiographics or other resources through https://pubmed.ncbi.nlm.nih.gov/

Semester

Second semester

Assessment method

The exam will be carried out in an integrated manner according to the modality envised by the digestive disease vertical track which is based on:
End of Clerckship evaluation, which includes: >70% attendance and confirmation by the tutor of the required practical skills
these requirements shall allow the access to:
• Multiple Choice Test (15 questions) + Open questions (3 questions)
All assessments will be done in English language
The evaluation of clerckship 9 shall be: Idoneous or Non Idoneous (and is considered propedeutic to the general exam of the Digestive disease Tract exam (Oral exam on the topics covered during the lectures, discussion on clinical problem solving and clinical case analysis)
• In the event of pandemic emergency period, only telematics exams may be available. They will be carried out using the WebEx platform and on the e-learning page there will be displayed a public link where possible virtual spectators may get access and assist to the examination

Office hours

The professor receives by appointment upon agreement by e-mail

Sustainable Development Goals

QUALITY EDUCATION | GENDER EQUALITY