UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Clerkship 9

2425-5-H4102D060

Aims

The aim of the Clerckship 9 (subdivided in 6 sections: Gastroenterology & Hepatology I, II (Clinical Gastroenterology and Hepatology), Gastroenterology & Hepatology III (clinical Radiology of the digestive system), Gastroenterology & Hepatology IV (surgical aspects of the digestive system part2), Abdominal Surgery (surgical aspects of the digestive system part 1) and Craniofacial disorders :
are:
for Gastroenterology & Hepatology I, II (Clinical Gastroenterology and Hepatology):
A) To integrate the knowledge of the digestive tract (liver, pancreas & intestine) completing and elaborating on the argument presented during the frontal lessons through:

1. Providing the basic knowledge the digestive system in health and disease. Provide the necessary knowledge of the aetiology, pathophysiology, diagnosis, differential diagnosis of the digestive systems.
2. To understand the indications for the diagnostic testing, and the role of endoscopy and of imaging. To provide the theoretical and practical knowledge for the correct prescription of diagnostic imaging based on the clinical question, and for correct interpretation of first level diagnostic imaging.
3. To understand the principle of medical treatment of digestive system diseases and the concepts of prevention and the relevant life-style measures.
   B) to acquire skills on semeiology, diagnosis, treatment and management of the digestive disease tract

practical skills to be acquired:

- History taking and diary & chart management
- physical examination of the patients (digestive tract diseases)
- Interpretation of biochemical and serological tests to be utilized in evaluating the GI tract
- interpretation of imaging techniques related to the GI tract
- indications and Interpretation of the endoscopic procedures of the GI Tract
- medical therapies of the GI Tract
- physician-patient communication
- relationship with collegues and health personell

for Gastroenterology & Hepatology III (clinical Radiology of the digestive system):
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.

for Gastroenterology & Hepatology IV (surgical aspects of the digestive system part2):
The course aims to provide students the tools and the necessary knowledge for performing a correct clinical diagnosis of the various pathologies of surgical interest, formulating an adequate differential diagnosis between the various pathologies, and identifying the proper surgical indication and surgical procedure. The knowledge and skills provided during the course will give the student the skills to understand the surgical pathologies, also by means of the physical examination, history-taking and the study of challenge clinical cases.
The clinical internship will gradually provides the student the skills to perform invasive and practical procedures in the basic management of the surgical patient.

for Abdominal Surgery (surgical aspects of the digestive system part 1)
A) To integrate the knowledge on the surgical management of the disorders of the digestive tract (Esophagus, stomach, intestine, liver pancreas, spleen, portal system, abdominal wall) completing and elaborating on the arguments presented during the frontal lessons by:

1. providing the basic knowledge on surgical management, including physiopathology of the surgical trauma response, surgical nutrition, surgical infections, perioperative medicine
2. providing the necessary knowledge on the surgical aspects of the disorders of the digestive system and the abdominal wall
3. providing the knowledge on the surgical indications, contraindications, preoperative evaluation (including appropriate tests), surgical techniques and outcomes for the aforementioned disorders
4. providing familiarity with the surgical process, including history taking and diary & chart management physical examination of the patients, surgically oriented Interpretation of laboratory test, endoscopy and imaging, medical management of the surgical patient, basic surgical maneuvers
5. providing familiarity with the skills of communication with patient and relatives
6. providing familiarity with the the relationship with collegues and health persone

for Craniofacial disorders
The aim of the Craniofacial diseases module is to provide elements to understand the head and neck disorders, through the clinical evaluation of the patient (obtain an adequate anamnesis, perform a complete ENT evaluation and instrumental ENT examinations such as audiometric tests and upper respiratory tract endoscopy) and the interpretation of imaging studies (CT and MRI) in order to formulate an etiological diagnosis and establish the appropriate surgical or medical therapy with attention to the risk/benefit balance of the proposed therapeutic choices. Particular attention will also be given to the surgical activity in the ORs, with the constant presence of the students during ENT surgical procedures

Contents

For Gastroenterology & Hepatology I, II (Clinical Gastroenterology and Hepatology):
Main desctiption of Liver, Pancreas & Digestive disease tract diseases: epidemiology, pathophysiology, clinical presentation, diagnosis & management, integrated by the acquisition of practical skillsthe management of patients

with digestive tract diseases

Gastroenterology & Hepatology III (clinical Radiology of the digestive system):
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.

- for **Gastroenterology & Hepatology IV (surgical aspects of the digestive system part2**:
  Principle of diagnosis and treatment of benign and malignant pathologies of oesophagus, upper GI, pancreas,
  extrahepatic biliary tract and gallbladder, lower GI and proctology

- for **Abdominal Surgery (surgical aspects of the digestive system part 1**
  Main analysis and understanding of the surgical aspects and management of the GI disorders

- For **Craniofacial disorders**
  The module of Craniofacial Diseases will be focused on the following topics:
  • Ear diseases
  • Oral cavity diseases
  • Pharingeal diseases
  • Laryngeal diseases
  • Neck masses
  • Nasal and paranasal sinuses diseases
  • Skull base

Detailed program

for Gastroenterology & Hepatology I, (Clinical Hepatology):Hepatology:
Chronic hepatitis (Pathology & Diagnostic Clinical Hepatology): Viral Hepatitis, Storage diseases, Acute & Chronic alcoholic hepatitis; Cholestatic liver diseases;
Autoimmune liver disease, Drug Induced Liver disease (DILI; Non-alcoholic Fatty liver disease (NAFLD/MAFLD/DAFLD)
Cirrhosis: Staging systems; Portal hypertension (Ascites, Collateral circles, Hepatic encephalopathy)
Acute on Chronic Liver Failure (ACLF): Physiopathology, Clinic & Management
Acute Liver Failure: Physiopathology, Clinic & Management
Hepatocellular Carcinoma (HCC): Pathology & Diagnostic Clinical Hepatology; Interventional Radiology; Surgery
Cholangiocarcinoma: Pathology & Diagnostic; Clinical Gastroenterology; Endoscopy; Surgery
Liver transplant: Indications/Complications

for Gastroenterology & Hepatology II (Clinical Gastroenterology):
• GI Bleeding: Clinic, diagnosis & management
• Upper GI: Oesophageal disorders; Functional disorders MRGE (and NERD); Peptic disorders
• GI tract Tumours: Pathology & Diagnostic; Clinical Gastroenterology; Endoscopy; Surgery
• IBD: Pathology & Diagnostic; Clinical Gastroenterology; Endoscopy; Surgery
• Coeliac disease: Pathology & Diagnostic; Clinical Gastroenterology; Endoscopy
• NET tumours
• Acute abdomen: Clinic, diagnosis and management
• Pancreas: pancreatitis (Acute & Chronic), Pancreatic tumours

for Gastroenterology & Hepatology III (clinical Radiology of the digestive system):
-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

for Gastroenterology & Hepatology IV (surgical aspects of the digestive system part2:

1. OESOPHAGEAL PATHOLOGY
   Evaluate the different investigative studies and identify the proper diagnostic technique: esophagoscopy, esophagography, esophageal manometry, esophagus-gastric pHmetry, echo-endoscopy, CT.
   Recognize the clinical pictures and complications, provide indications for surgical treatment and describe the general aspects of the main surgical interventions in relation to the following pathologies: Hiatal hernia and peptic esophagitis; Esophageal achalasia (and DMA); caustic esophageal injury; esophageal diverticula (Zenker, mediothoracic and epiphrenic); esophageal neoplasms (benign and malignant).
2. UPPER GI PATHOLOGY
   Evaluate the different investigative studies and identify the proper diagnostic technique: gastroduodenoscopy, digestive tract x-ray, echo-endoscopy, ultrasound, scintigraphy, CT. Recognize the clinical pictures and complications, provide indications for surgical treatment and describe the general aspects of the main surgical interventions in relation to the following pathologies: gastric ulcer; duodenal ulcer; acute erosive gastritis; gastric precancerous conditions; gastric neoplasms (benign and malignant).
3. SMALL BOWEL, COLON AND RECTUM-ANUS
   Evaluate the different investigative studies and identify the proper diagnostic technique: rectoscopy, rectosigmoidoscopy, colonoscopy, x-ray digestive tract, contrast enema, defecography, intestinal transit time, anorectal manometry, endoscopy, ultrasound, CT, MRI. Recognize the clinical pictures and complications, provide indications for surgical treatment and describe the general aspects of the main surgical interventions in relation to the following pathologies: enteritis; Crohn's disease and IBD; intestinal diverticulosis; neoplasms of the colon, rectum, anus; polyposis; rectal prolapse; benign anorectal pathology (anal fistulas, hemorrhoids, fissures, pilonidal cysts).
4. BILIARY TRACT AND PANCREAS PATHOLOGY
   Evaluate the different investigative studies and identify the proper diagnostic technique: endoscopy, ultrasound, echo-endoscopy; cholangiography, CT, MRI.
   Recognize the clinical pictures and complications, provide indications for surgical treatment and describe the general aspects of the main surgical interventions in relation to the following pathologies: Cholelithiasis; choledocholithiasis; Vater papilla stenosis; pancreatic neoplasms; pancreatic cysts; neuroendocrine tumors of the pancreas.

per Abdominal Surgery (surgical aspects of the digestive system part 1 (Shared with the General Surgery part of the GI Track)
General aspects of perioperative medicine:
• physiopathology of the response to surgical trauma
• surgical infections
• nutrition in surgery
• the concept of ERAS (Enhanced Recovery After Surgery)
Surgical management of the following digestive and abdominal disorders: Indications, techniques, results
• benign disorders of the esophagus: Diverticula, Achalasia Gastroesophageal reflux
• malignant neoplasms of the esophagus
• benign disorders of the stomach: volvulus, foreign bodies, benign neoplasms
• malignant neoplasms of the stomach
• benign disorders of the small and large bowel , benign neoplasms, IBD , volvulus, intestinal occlusion
• malignant neoplasms of the small and large bowel
• disorders of the anus: Fissures, Hemorroids, fistula, neoplasms, condylomata
• benign disorders of the liver: cysts, angiomas, adenomas , nodal focal hyperplasia
• malignant neoplasms of the liver: primary and metastatic
• liver transplantation
• portal hypertension
• benign disorders of the bile ducts: lithiasis of the gallbladder, and of the intra- and extrahepatic ducts
• malignant neoplasms of the bile ducts
• benign disorders of the pancreas: acute and chronic pancreatitis, cysts and pseudocysts
• endocrine neoplasms of the pancreas
• malignant neoplasms of the pancreas
• disorders of the spleen
Anatomy, physiopathology, natural history and surgical repair of abdominal hernias: hiatal and other diaphragmatic hernias, inguinal and crural, hernias, incisional hernias, general aspects of less common hernias (epigastric, lateral ventral, ischiatic, obturator hernias)
Acute abdomen: peritonitis, intestinal occlusion, hemoperitoneum: Clinical features, assessment and surgical management.
Transplantation of the the lung, the pancreas, the small bowel the kidneys

for Craniofacial disorders
The following main pathologies of the head and neck district will be addressed: external, middle and inner ear disorders (otitis, labyrintitis, hypoacusia, otosclerosis); oral and oropharyngeal disorders (tonsillitis, pharyngitis, OSAS), laryngeal disorders (laryngitis, laryngeal palsy); salivary gland disorders (sialoadenitis, sialolithiasis, tumors of the salivary glands); paranasal sinus disorders (rhinitis, rhinosinusitis, epistaxis, sinonasal polyposis); tumors of the head and neck (oral carcinoma, pharyngeal carcinoma, laryngeal carcinioma, neck lymph nodes metastasis); anterior and lateral skull base diseases (sinonasal tumors, cerebellopontine tumors such as acoustic neuromas and meningiomas, paragangliomas)

Prerequisites

Propaedeutic skills & Advanced knowledge in anatomy, semeiology, biology and molecular biology.

Teaching form

the clerckship sessione are subdivided in the following teaching modality, alternating prasctical sessions in the medical units and interactive activities as follows:

Gastroenterology & Hepatology I, (Clinical Hepatology) & II (Gastrointestinal clinic):
Lectures with interactive presentation and discussion.
PBL sessions
Multidisciplinary cases discussions
attendance of the following activities:
Inpatients & Outpatients:

- patient History (supervised activity)
- acquisition/interpretation of biochemical, microbiological, instrumental reports (supervised activity)
- physical examination of the patient (supervised activity)
  US Scan (observation & acquisition of basic theoretical Skills)
  Endoscopy (observation & acquisition of basic theoretical Skills)
  the ratio Student/Tutor is 1:1 or maximum 1:3

for Gastroenterology & Hepatology III (clinical Radiology of the digestive system):
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.

for Gastroenterology & Hepatology IV (surgical aspects of the digestive system part2:
Frontal lessons, mutidisciplinary lessons in presence and will be held in english

per Abdominal Surgery (surgical aspects of the digestive system part 1
L'insegnamento alternerà sessioni pratiche (nei reparti chirurgici, in ambulatorio e in sala operatoria) e attività interattive come segue: Lezioni frontali con presentazione e discussione interattiva.
Sessioni PBL (integrate con lo staff gastroenterologico)
Discussioni di casi multidisciplinari
In caso di recrudescenza della pandemia le lezioni si svolgeranno tramite webinar

for Craniofacial disorders

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

Textbook and teaching resource

Gastroenterology & Hepatology I, (Clinical Hepatology) & II (Gastrointestinal clinic):

- Harrison's Principles of Internal Medicine: The 20th edition of the book, edited by Dennis Kasper, Anthony Fauci, Stephen Hauser, Dan Longo, J. Larry Jameson and Joseph Loscalzo, (17 August 2018). The 21st edition of the book to be released on 28 March 2022
- Zakim and Boyer's Hepatology. A Textbook of Liver Disease. Seventh Edition (2018) (Edited by: Arun J. Sanyal, Thomas D. Boyer, Norah A. Terrault, and Keith D. Lindor)
- Sleisenger and Fordtran's Gastrointestinal and Liver Disease- 2 Volume Set Pathophysiology, Diagnosis, Management. 11th Edition - June 9, 2020. Authors: Mark Feldman, Lawrence Friedman, Lawrence Brandt
- Clinical Gastrointestinal Endoscopy: A Comprehensive Atlas. (2018) Ed. Hoon Jai Chun, Suk-Kyun Yang, Myung-Gyu Choi
- Malattie Dell’apparato Digerente 2019-2022: Unigastro (Editrice Gastroenterologica Italiana)
- Reviews
-

surgery

- Lessons on power point slides with references to national and international guidelines
- Sabiston. Textbook of Surgery. Saunders
- F. Minni. Chirurgia Generale. Zanichelli
- F. D'Amico. Manuale di Chirurgia Generale. Piccin
- References available on the scientific biomedical resource Pubmed

per Gastroenterology & Hepatology III (clinical Radiology of the digestive system):
Review eand articles available on https://pubs.rsna.org/journal/radiographics and other resources available through: https://pubmed.ncbi.nlm.nih.gov

for Craniofacial disorders
Practical Otorhinolaryngology - Head and Neck Surgery
Diagnosis and treatment - Zhonglin Mu, Jugao Fang - Springer, 2021

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 (45 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

per for Gastroenterology & Hepatology I, II (Clinical Gastroenterology & Hepatology)
per Gastroenterology & Hepatology IV (surgical aspects of the digestive system part2:
per Abdominal Surgery (surgical aspects of the digestive system part 1

- PATIENT-PHYSICIAN RELATIOSHIP: practical implementation of the good clinical practices of patient-phyisician relationship: listening, dialogue, information, clearness, consent acquisition.
  Relationship with collegues and health personell
- MEDICAL HISTORY: family, social, physiological, pathological, current problems
- Diary & chart management
- PARAMETERS assessment: central & peripheral hearth rate, Respiratory rate, features of breathing, Blood arterial pressure in clino & ortho, centeal & peripheral pulses, interpretation of a thermic courve
- SKILLS: INJCTIONS: venous catheter placement, ev. infusiuons, arterial infusions, i.m. injections, s.c

injections
- O2: principlkes of O2 therapy - Saturimetry
- ECG: to execute an ECG . Interpretations of the main ECG pictutes
- ADMINISTRATIVE ISSUES: How to fill a medica chart (written & electronical), built a discharge letter & SDO
  how to request informed consent
  Compile a medical prescription or a biochemical & imaging test request
- CONTAGION & PREVENTION: Knowledge & application of protection measures from infection.
  Knowing the actions of prevention and health education
- PHYSICAL EXAMINATION Examination of the abdomen
  State of conscousness - Hepatic Hencephalopathy
  Diuresis, Bowel alterations Diarrhea and constipation (stool exam)
  Pruritus, skin alterations-pigmentation- Jaundice/Skin disorders /Infectious exanthemas
  Gastrointestinal bleeding
  Nutritional Status /Idratation/ Unintentional weight loss/Thirst / Hunger
  Edemas
  Nutrition - fluid balance
  Identifications of objective signs od dehydration
- SPECIALISTIC TESTING:
  imaging interpretation of the main Hepato & GI pathologies
  Interpretation of biochemical tests
  Indication to & interpretation of the endoscopic procedures of the GI Tract
  Diagnostic hypothesis formulation & therapeutical plam design
  Principles of Liver biopsy
- THERAPY principles of medical therapy in Hepat-Gastroenterology
- OUTPATIENT CARE: Assisting to Hepatologic, Trapiantologic, Gastroenterologic outpatient visit
  Simulation of an Hepatologic, Trapiantologic, Gastroenterologic outpatient visit
- CLINICA REASONING: Capability of framing the reason for admission within the contesx of complex chronicity conditions of the patient. concepts of Frailty
  To show knowledge and application of clinical reasonment: capability of identifying priority & urgent issues. proposing diagnostic hypothesis and to plan diagnostic algorithms

for Gastroenterology & Hepatology III (clinical Radiology of the digestive system):
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

for Gastroenterology & Hepatology IV (surgical aspects of the digestive system part2:
The evaluation shall be: Idoneous or Non Idoneous (and is considered propedeutical to the general exam of the Digestive disease Tract)

for Abdominal Surgery (surgical aspects of the digestive system part 1
The evaluation shall be: Idoneous or Non Idoneous (and is considered propedeutical to the general exam of the Digestive disease Tract)

for Craniofacial Disorders:
Evaluation based upon skill form

Office hours

The professors shall receive by appointment upon agreement by e-mail

per for Gastroenterology & Hepatology I, II (Clinical Gastroenterology & Hepatology): *stefano.fagiuoli@unimib.it*

for Gastroenterology & Hepatology III (clinical Radiology of the digestive system): *pmarra@asst-pg23-it*

per Gastroenterology & Hepatology IV (surgical aspects of the digestive system part2: : mpisano@asst-pg23.it

for Abdominal Surgery (surgical aspects of the digestive system part 1: fneri@asst-pg23.it -

for Craniofacial Disorders: : Prof. G. Danesi (gdanesi@asst-pg23.it) -- Tutors: Dr. A. Pusateri (ampusateri@asst-pg23.it); Dr. G. Giourgos (ggiourgos@asst-pg23.it)

Sustainable Development Goals

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