

SUBJECT TEACHING GUIDE

G141 - Medical Pathology V

Degree in Medicine

Academic year 2024-2025

1. IDENTIFYING DATA					
Degree	Degree in Medicine			Type and Year	Compulsory. Year 5
Faculty	Faculty of Medicine				
Discipline	Human Clinical Training Subject Area: Human Pathology				
Course unit title and code	G141 - Medical Pathology V				
Number of ECTS credits allocated	6	Term	Semester based (1)		
Web					
Language of instruction	Spanish	English Friendly	Yes	Mode of delivery	Face-to-face

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Other lecturers	RICARDO BLANCO ALONSO VICTOR MANUEL MARTINEZ TABOADA MARTA FERNANDEZ SAMPEDRO CARLOS ARMIÑANZAS CASTILLO FRANCISCO ARNAIZ DE LAS REVILLAS ALMAJANO

3.1 LEARNING OUTCOMES

- To know how to get a proper medical history, collecting the family and personal history and symptoms of greater diagnostic value.
- To identify by clinical examination the most important data for diagnosis .
- To establish a diagnosis approach based on the data of history and exploration .
- To know what laboratory and imaging tests should be ordered to assess previously established diagnostic possibilities .
- To know how to interpret the results of laboratory tests and imaging requested .
- To know potential patient discomfort and side effects of diagnostic tests requested .
- To know how to establish a diagnostic approach based on the results obtained and propose a therapeutic approach .
- To know the economic cost of diagnostic tests and treatments .
- To know how to proceed correctly in terms of evaluation , exploration and initial treatment of the most common syndromes in Infectious Diseases and Rheumatology.

4. OBJECTIVES

INFECTIOUS DISEASES

LEARNING OBJECTIVES

- To know the clinically relevant biological characteristics of microbial agents causing major Infections Diseases .
- To know how to identify the main signs and symptoms of infectious diseases presenting in both normal and immunocompromised host.
- To understand the pathogenesis and natural history of major bacterial , viral, fungal and parasitic infections.
- To understand the epidemiological importance of the various community Infections .
- To determine the frequency and types of infection complicating the evolution of patients hospitalized for other disease processes and their impact.
- To understand the sensitivity and specificity of the major diagnostic tests , especially at the level of imaging techniques and microbiological analysis, and the opportunity of a request.
- To understand the sensitivity of microorganisms to different antimicrobial agents and their mechanisms of resistance .
- To know the bases of antimicrobial, antifungal and antiviral therapy.
- To know the main therapeutic strategies used in community infections .
- To know the strategies of treatment of nosocomial infections .
- To know the strategies of prevention of Transmitted diseases , including behavioral, prophylaxis and vaccinations.
- To know the prognosis of major infectious diseases , without proper treatment.

ABILITIES

- To know how to obtain an adequate medical history, collecting personal and epidemiological history and clinical data of interest for the diagnosis of infection.
- To identify, by physical examination, the most important data for the diagnosis of possible infection (meningeal syndrome, pulmonary condensation, hepato-splenomegaly, lymphadenopathy, heart murmur, rash, etc.)
- To interpret the hematological and biochemical laboratory abnormalities of interest for the diagnosis and monitoring of an infectious process and when to be ordered.
- To know how to ask the appropriate microbiological tests for the diagnosis of each type of infection (stains, cultures, serology, etc.) and interpret.
- To know how to interpret the basic data of the simple radiological investigations in relation to infectious processes and when to request more sophisticated scans.
- To know to proceed properly, in terms of management and succession of scans, compared to the main syndromes and clinical situations of infectious diseases: acute febrile syndrome, septic shock, prolonged febrile syndrome, meningeal syndrome, pathology of drug addict patient, diarrheal syndrome, pulmonary condensation, severe soft tissue infection, etc.

Rheumatology.

LEARNING OBJECTIVES

- To know the socioeconomic importance of rheumatic diseases and systemic autoimmune diseases .
- To know the structure and function of the joint .
- To know the diagnostic value and clinical utility of laboratory tests used in rheumatology .
- To know the diagnostic value and clinical utility of imaging tests used in rheumatology .
- To understand the most important therapeutic agents used in Rheumatology , their mechanism of action, efficacy, effectiveness, side effects, contraindications and drug interactions.
- To understand the epidemiology, pathogenesis, clinical, analytical, imaging findings, diagnosis, differential diagnosis, prognosis and treatment of rheumatic diseases and systemic autoimmune diseases.
- To understand, in diseases where available, the current international criteria proposed for classification.
- To understand, in diseases where available, the therapeutic regimens proposed by scientific societies of rheumatology excellence. Classification.
- To understand, in diseases where available, the therapeutic regimens proposed by Scientific Societies of Rheumatology.

ABILITIES

- To know how to obtain adequate medical history, collecting the personal, familial and symptoms of greater diagnostic value.
- To know how to identified by clinical examination the most relevant data for diagnosis .
- To establish a diagnostic approach based on the data of history and exploration .
- To know what laboratory tests and imaging should be ordered to assess previously established diagnostic possibilities .

- To know how to interpret the results of laboratory tests and imaging requested .
- To know the potential patient discomfort and side effects of diagnostic tests requested .
- To know how to establish a diagnostic approach based on the results obtained and propose a therapeutic approach .
- To know, the economic cost of diagnostic tests and treatments.
- To know how to proceed correctly in terms of evaluation , exploration and initial treatment of the most common syndromes in rheumatology.

6. SUBJECT PROGRAM

CONTENTS

MÓDULO ENFERMEDADES INFECCIOSAS. PROGRAMA TEÓRICO

PARTE I: CONSIDERACIONES BÁSICAS EN LAS ENFERMEDADES INFECCIOSAS

Tema 1. El paciente con una enfermedad infecciosa en la era de la multirresistencia y de las infecciones víricas.

Tema 2. El tratamiento antibiótico, antifúngico y antivírico en las Enfermedades Infecciosas. Indicaciones de tratamiento empírico. Los Programas de Optimización de Antibioterapia (PROA).

PARTE II. ENFERMEDADES PRODUCIDAS POR MICROORGANISMOS GRAMPOSITIVOS

Tema 3. Enfermedades producidas por estreptococos del grupo A y B. Epidemiología, diagnóstico, clínica y tratamiento.

Tema 4. Enfermedades producidas por estreptococos del grupo C y G, estreptococos del grupo viridans, neumococo, enterococos. Epidemiología, diagnóstico, clínica y tratamiento.

Tema 5. Enfermedades producidas por estafilococos. Epidemiología, diagnóstico, clínica y tratamiento.

Tema 6. Enfermedades producidas por bacilos grampositivos. Epidemiología, diagnóstico, clínica y tratamiento.

PARTE III. ENFERMEDADES PRODUCIDAS POR MICROORGANISMOS GRAMNEGATIVOS

Tema 7. Enfermedades producidas por cocos gramnegativos. Epidemiología, diagnóstico, clínica y tratamiento.

Tema 8. Enfermedades producidas por Haemophilus, bacterias del Grupo HACEK, Legionella y Bordetella. Epidemiología, diagnóstico, clínica y tratamiento.

Tema 9. Enfermedades producidas por bacilos entéricos gramnegativos. Epidemiología, diagnóstico, clínica y tratamiento.

Tema 10. Enfermedades producidas por Pseudomonas y otros bacilos gramnegativos relacionados. Epidemiología, diagnóstico, clínica y tratamiento.

Tema 11. Enfermedades producidas por Brucella, Francisella tularensis, Pasteurella, Bartonella. Epidemiología, diagnóstico, clínica y tratamiento.

PARTE IV. OTRAS INFECCIONES BACTERIANAS

Tema 12. Enfermedades producidas por Nocardia y Actinomyces. Patogenia, manifestaciones clínicas, diagnóstico y tratamiento.

Tema 13. Enfermedades producidas por microorganismos anaerobios. Epidemiología, diagnóstico, clínica y tratamiento.

PARTE V. ENFERMEDADES PRODUCIDAS POR VIRUS

Tema 14. Infecciones por retrovirus humanos (1). Etiología, epidemiología e historia natural de la infección por VIH-1 y VIH-2. Diagnóstico. Estadios clínicos e inmunológicos de la infección por el VIH. Manifestaciones clínicas. Tratamiento.

Tema 15. Infecciones por retrovirus humanos (2). Infecciones oportunistas: clínica, diagnóstico y tratamiento.

Tema 16. Enfermedades producidas por virus influenza y COVID-19.

Tema 17. Enfermedades producidas por virus herpes I, II, Citomegalovirus, virus herpes VI, VII y virus de Epstein-Barr.

Tema 18. Enfermedades Infecciosas por Parvovirus y virus del Papiloma humano (VPH). Virus de la Viruela del mono.

Otras Enfermedades producidas por virus.

PARTE VI. ENFERMEDADES PRODUCIDAS POR PROTOZOOS Y HELMINTOS

Tema 19. Enfermedades producidas por Plasmodium, Toxoplasma gondii, Entamoeba histolitica, Giardia lamblia y Cryptosporidium. Patogenia, cuadros clínicos y complicaciones, diagnóstico y tratamiento. Patología del Viajero.

Tema 20. Enfermedades producidas por Tripanosoma spp y Leishmania. Enfermedades producidas por cestodos (teniasis y equinococosis) y nematodos (ascaridiasis y anisakiasis). Epidemiología, manifestaciones clínicas, diagnóstico, prevención y tratamiento.

PARTE VII. ENFERMEDADES PRODUCIDAS POR MICOBACTERIAS

Tema 21. Enfermedades producidas por Mycobacterium. Epidemiología, patogenia, manifestaciones clínicas y tratamiento.

PARTE VIII. ENFERMEDADES PRODUCIDAS POR ESPIROQUETAS

Tema 22. Enfermedades producidas por Treponema, Leptospira y Borrelia. Epidemiología, Patogenia, manifestaciones

clínicas, diagnóstico y tratamiento.

PARTE IX. ENFERMEDADES PRODUCIDAS POR HONGOS

Tema 23. Micosis profundas. Micosis endémicas.

PARTE X. ENFERMEDADES PRODUCIDAS POR RICKETTSIAS, MYCOPLASMA Y CHLAMYDIA

Tema 24. Enfermedades producidas por Rickettsias del grupo tifus. Fiebre Botonosa Mediterránea. Enfermedades producidas por *Coxiella burnetti*, *Ehrlichia* spp.

Tema 25. Enfermedades producidas por *Chlamydia* y *Mycoplasma*. Etiología, patogenia, manifestaciones clínicas y tratamiento.

PARTE XI. ENFERMEDADES INFECCIOSAS: SÍNDROMES CLÍNICOS

Tema 26. El paciente con Bacteriemia, sepsis y shock séptico. El paciente con fiebre y dispositivos intravasculares.

Tema 27. Enfermedades Infecciosas y la asistencia sanitaria. Patología del Viajero.

Tema 28. Enfermedades Infecciosas en los pacientes inmunodeprimidos (1). Paciente con trasplante de órganos sólidos y paciente onco-hematológico.

Tema 29. Enfermedades Infecciosas en los pacientes inmunodeprimidos (2). Paciente que recibe terapias biológicas. Infecciones en esplenectomizados.

Tema 30. El paciente con sospecha de Endocarditis, Meningitis o Infección urinaria.

Tema 31. Orientación diagnóstica y terapéutica de las Enfermedades de transmisión sexual.

PART I: BASIC CONSIDERATIONS IN INFECTIOUS DISEASES

Topic 1. The patient with an infectious disease in the era of multi-resistance and viral infections.

Topic 2. Antibiotic, antifungal and antiviral treatment in infectious diseases. Indications for empirical treatment.

Antibiotherapy Optimization Programs (PROA).

PART II. DISEASES CAUSED BY GRAM-POSITIVE MICROORGANISMS.

Topic 3. Diseases caused by group A and B streptococci. Epidemiology, diagnosis, clinical and treatment.

Topic 4. Diseases caused by group C and G streptococci, group viridans streptococci, pneumococci, enterococci.

Epidemiology, diagnosis, clinical and treatment.

Topic 5. Diseases caused by staphylococci. Epidemiology, diagnosis, clinical and treatment.

Topic 6. Diseases caused by gram-positive bacilli. Epidemiology, diagnosis, clinical and treatment.

PART III. DISEASES CAUSED BY GRAM-NEGATIVE MICROORGANISMS.

Topic 7. Diseases caused by gram-negative cocci. Epidemiology, diagnosis, clinical and treatment.

Topic 8. Diseases caused by *Haemophilus*, HACEK Group bacteria, *Legionella* and *Bordetella*. Epidemiology, diagnosis, clinical and treatment.

Topic 9. Diseases caused by enteric gram-negative bacilli. Epidemiology, diagnosis, clinical and treatment.

Topic 10. Diseases caused by *Pseudomonas* and other related gram-negative bacilli. Epidemiology, diagnosis, clinical and treatment.

Topic 11. Diseases caused by *Brucella*, *Francisella tularensis*, *Pasteurella*, *Bartonella*. Epidemiology, diagnosis, clinical and treatment.

PART IV. OTHER BACTERIAL INFECTIONS

Topic 12. Diseases caused by *Nocardia* and *Actinomyces*. Pathogenesis, clinical manifestations, diagnosis and treatment.

Topic 13. Diseases caused by anaerobic microorganisms. Epidemiology, diagnosis, clinical manifestations and treatment.

PART V. DISEASES CAUSED BY VIRUSES

Topic 14. Infections by human retroviruses (1). Etiology, epidemiology and natural history of HIV-1 and HIV-2 infection.

Diagnosis. Clinical and immunological stages of HIV infection. Clinical manifestations. Treatment.

Topic 15. Human retrovirus infections (2). Opportunistic infections: clinical, diagnosis and treatment.

Topic 16. Diseases caused by influenza virus and COVID-19.

Topic 17. Diseases caused by herpes viruses I, II, Cytomegalovirus, herpes viruses VI, VII and Epstein-Barr virus.

Topic 18. Infectious diseases caused by Parvovirus and human papillomavirus (HPV). Monkeypox virus. Other diseases caused by viruses.

PART VI. DISEASES CAUSED BY PROTOZOA AND HELMINTHS.

Topic 19. Diseases caused by Plasmodium, Toxoplasma gondii, Entamoeba histolytica, Giardia lamblia and Cryptosporidium. Pathogenesis, clinical pictures and complications, diagnosis and treatment. Traveler's Pathology.

Topic 20. Diseases caused by Trypanosoma spp and Leishmania. Diseases caused by cestodes (taeniasis and echinococcosis) and nematodes (ascariasis and anisakiasis). Epidemiology, clinical manifestations, diagnosis, prevention and treatment.

PART VII. DISEASES CAUSED BY MYCOBACTERIA

Topic 21. Diseases caused by Mycobacterium. Epidemiology, pathogenesis, clinical manifestations and treatment.

PART VIII. DISEASES CAUSED BY SPIROCHETES

Topic 22. Diseases caused by Treponema, Leptospira and Borrelia. Epidemiology, pathogenesis, clinical manifestations, diagnosis and treatment.

PART IX. DISEASES CAUSED BY FUNGI

Topic 23. Deep mycoses. Endemic mycoses.

PART X. DISEASES CAUSED BY RICKETTSIAE, MYCOPLASMA AND CHLAMYDIAE.

Topic 24. Diseases caused by Rickettsiae of the typhus group. Mediterranean Button Fever. Diseases caused by Coxiella burnetii, Ehrlichia spp.

Topic 25. Diseases caused by Chlamydia and Mycoplasma. Etiology, pathogenesis, clinical manifestations and treatment.

PART XI. INFECTIOUS DISEASES: CLINICAL SYNDROMES.

Topic 26. The patient with bacteremia, sepsis and septic shock. The patient with fever and intravascular devices.

Topic 27. Infectious diseases and health care. Traveler's Pathology.

Topic 28. Infectious diseases in immunocompromised patients (1). Patient with solid organ transplant and onco-haematologic patient.

Topic 29. Infectious diseases in immunosuppressed patients (2). Patient receiving biological therapies. Infections in splenectomized patients.

Topic 30. The patient with suspected Endocarditis, Meningitis or urinary tract infection.

Topic 31. Diagnostic and therapeutic orientation of sexually transmitted diseases.

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MODULE OF IRHEUMATOLOGY. THEORY

PART I.- CHRONIC INFLAMMATORY ARTHROPATHIES:

Lesson 1: General structure of the subject and evaluation. CONCEPT of Rheumatology. RHEUMATOID ARTHRITIS I.

Lesson 2: RHEUMATOID ARTHRITIS II.

Lesson 3: RHEUMATOID ARTHRITIS III.

Lesson 4: SPONDYLOARTHROPATHIES I.

Lesson 5: SPONDYLOARTHROPATHIES II.

Lesson 6: INFLAMMATORY DISEASES IN CHILDHOOD: Juvenile Idiopathic Arthritis.

PART II.- SYSTEMIC AUTOIMMUNE DISEASES:

Lesson 7: SYSTEMIC LUPUS ERYTHEMATOSUS I.

Lesson 8: SYSTEMIC LUPUS ERYTHEMATOSUS II.

Lesson 9: ANTIPHOSPHOLIPID SYNDROME.

Lesson 10: SYSTEMIC SCLEROSIS (Scleroderma) and related syndromes.

Lesson 11: IDIOPATHIC INFLAMMATORY MYOPATHIES.

Lesson 12: SJÖGREN SYNDROME. IgG4 RELATED DISEASE.

PART III.-VASCULITIS AND PSEUDOASCULITIC SYNDROMES:

Lesson 13: VASCULITIS I. Large vessel vasculitis.

Lesson 14: VASCULITIS II. Medium vessel vasculitis.

Lesson 15: VASCULITIS III. Systemic necrotizing vasculitis associated with ANCA .

Lesson 16: VASCULITIS IV. Cutaneous vasculitis.

Lesson 17: VASCULITIS V. Other vasculitis and pseudovasculitic syndromes.

PARTE IV.- RHEUMATIC DISEASES RELATED TO INFECTIOUS AGENTS:

Lesson 18: INFECTIOUS ARTHRITIS I. SEPTIC ARTHRITIS. BURSITIS. PYOMYOSITIS.

Lesson 19: INFECTIOUS ARTHRITIS II. BONE INFECTIONS. OSTEOARTICULAR TUBERCULOSIS. FUNGAL ARTHRITIS. VIRAL ARTHRITIS.

PART V.- MICROCRYSTALLINE ARTHROPATHIES:

Lesson 20: MICROCRYSTALLINE ARTHRITIS I. GOUT.

Lesson 21: MICROCRYSTALLINE ARTHRITIS II. GOUT. PSEUDOGOUT.

PART VI.- DEGENERATIVE ARTHROPATHIES:

Lesson 22: OSTEOARTHRITIS.

Lesson 23: BACK PAIN AND SCIATICA. DIFFUSE IDIOPATHIC HYPEROSTOSIS.

PART VII.- BONE DISORDERS:

Lesson 24: BONE DISORDERS I. OSTEOPOROSIS.

Lesson 25: BONE DISORDERS II. OSTEOPOROSIS. PAGET'S DISEASE.

PART VIII.- MISCELLANEOUS:

Lesson 26: OSTEOARTICULAR MANIFESTATIONS OF SYSTEMIC DISEASES OR NEOPLASIA.

Lesson 27: FIBROMYALGIA. SOFT TISSUE DISORDERS.

7. ASSESSMENT METHODS AND CRITERIA				
Description	Type	Final Eval.	Reassessn	%
-INFECTIOUS DISEASES MODULE WRITTEN EXAM, which will account for 60% of the module grade and will consist of: a. MULTIPLE CHOICE QUESTIONS 30 multiple-choice questions, accounting for 20% of the grade. Four answers, only one correct. Each correct answer i	Written exam	No	Yes	50,00
-RHEUMATOLOGY MODULE WRITTEN EXAM, which will account for 60% of the module grade and will consist of: a. MULTIPLE CHOICE QUESTIONS 30 multiple-choice questions, accounting for 20% of the grade. Four answers, only one correct. Each correct answer is worth	Written exam	No	Yes	50,00
TOTAL				100,00
Observations				
<p>It will be necessary to obtain 50% of the grade in both the theoretical part (sum of the multiple-choice exam and short questions) and the continuous assessment of each module to pass the module.</p> <p>The final grade for Medical Pathology V will be the arithmetic mean of the grades obtained in both modules. If a module is passed in the regular exam, its grade will be retained until the extraordinary exam. To pass the subject, it is therefore necessary to pass both modules within the same academic year. Depending on the health situation, the evaluation may switch from in-person to online if necessary.</p>				
Observations for part-time students				
Part-time students must contact the professor responsible for the subject.				

8. BIBLIOGRAPHY AND TEACHING MATERIALS
BASIC
<p>-Harrison Principios de Medicina Interna. 19 edición. En español.McGraw Hill</p> <p>-Cecil. Principios de medicina interna. 24 edición. En español.EdSaunders -Farreras. Medicina Interna. 17ed. en español.</p> <p>-Mandell GL, Bennett JE, Dolin R. Principles and Practice of Infectious Diseases (PPID). Septima Edicion. V PA. Churchill Livingston: Elsevier</p>