



MEDICINE AND SURGERY

Course: Dermatology and Clinical Immunology

Year: 4th

Period: 2nd semester

Credits: 4

DERMATOLOGY

Faculty: Antonio Costanzo (Coordinator), Riccardo Borroni,

Tutors for practical activities: Antonio Costanzo, Riccardo Borroni, Mario Valenti

RHEUMATOLOGY and CLINICAL IMMUNOLOGY

Faculty: Carlo Selmi, Maria De Santis, Angela Ceribelli

Tutors for practical activities: Carlo Selmi, Maria De Santis, Angela Ceribelli, Nicoletta Luciano, Francesca Motta

Objectives

This course addresses the specific and shared areas within the fields of Dermatology, Clinical Immunology and Rheumatology. This combined course will provide the essential core knowledge that is fundamental to understand dermatologic and rheumatologic disease and their interconnections with the human system.

At the end of the course should be able to recognize common dermatologic and rheumatological/immunological disease and provide general and specific indications on the pathogenesis and the diagnostic and therapeutic approaches.

Prerequisites

An adequate knowledge of Anatomy, Histology, Physiology and General Pathology particularly related to the skin, to the immune system and musculoskeletal apparatus is required.



Assessment

Assessment of the knowledge of the contents of this course will be evaluated with a final exam composed of a written multiple-choice question test followed by an oral exam when indicated.

Content of written test (30 questions): dermatology (15), rheumatology and clinical immunology (15). Questions will include the whole program of the course as well as clinical vignettes with suggested diagnostic or therapeutic decisions being most likely. The written examination will be evaluated with a score from 0 to 30 by adding 1 point with each correct answer.

In case the candidate obtains a score below 18/30 in the written exam, the exam will be failed and no oral exam will be allowed.

In case the candidate obtains a score below 25/30 in the written exam, she/he will have to necessarily sustain the oral exam of both sections and a positive evaluation must be obtained in both to pass.

In case the candidate obtains a score equal to or above 25/30 in the written test, the oral exam will be at discretion of the candidate.

Oral questions will refer to all topics from program of the course and will also include clinical case discussions. In all cases, if the candidate takes the oral exam, the score obtained in the written test might be confirmed or changed (becoming higher or lower) based on the oral exam performance.



Contents

Module of Dermatology

(Main topics to learn)

Topic 1. Approach to Dermatologic Diagnosis

Learning goals:

Recall the general concept of skin anatomy, functional areas.

Describe anatomic organization of horny layer.

Define the concept of skin immunology.

Explain barrier function

Recognize primary and secondary elementary skin lesions

Use the correct terminology to describe primary and secondary elementary skin lesions

Topic 2. Genodermatoses

Learning goals:

Describe genetic skin diseases with particular focus on epidermolytic diseases, ectodermal dysplasias and Ichtyosis

Define pathogenesis and differential diagnostic criteria

Recognize and describe lesions from clinical cases

Understand the principles of systemic and topical therapy

Topic 3. Non-Melanoma Skin Cancers

Learning goals:

Recall the mains from non-melanoma skin cancers (BCC, SCC,)

Describe non-melanoma skin cancer prevention

Recognize and describe lesions from clinical cases

Explain the clinical management and main treatment therapies

Topic 4. Nevi and melanoma

Learning goals:

Explain pathogenesis and clinical manifestations of:

- Benign Neoplasias and Hyperplasias of Melanocytes
- Atypical (Dysplastic) Melanocytic Nevi
- Cutaneous Melanoma

Recognize and describe melanocytic lesions

Describe diagnostic and therapeutical approaches for benign and malignanyt melanocytic disorders

Topic 5. Atopic Dermatitis

Learning goals:



Describe the major clinical features leading to the suspect of atopic dermatitis;
Understand the epidemiology, pathogenesis, and differential diagnosis of atopic dermatitis
Understand the differential diagnosis of atopic dermatitis (e.g. allergic contact dermatitis);
Understand the major findings that are helpful in the diagnosis and management of patients;
Understand the therapeutic approach to atopic dermatitis with a specific focus on topical, systemic and biologic therapies ;

Topic 6. Bullous Diseases

Learning goals:

Describe Bullous skin diseases (particularly Pemphigus and Bullous Pemphigoid)
Understand the epidemiology, pathogenesis, and differential diagnosis of Bullous skin diseases
Recognize and describe lesions from clinical cases
Understand the principles of systemic and topical therapy

Topic 7. Acne and Hair Follicles diseases

Learning goals:

Describe diseases of cutaneous adnexa (particularly Acne and Alopecia)
Understand the epidemiology, pathogenesis, and differential diagnosis of Bullous skin diseases
Recognize and describe lesions from clinical cases
Understand the principles of systemic and topical therapy

Topic 8. Infectious skin diseases and Sexually transmitted diseases

Learning goals:

Describe pathogenesis and clinical manifestations of the following infectious disorders:
Syphilis
Endemic (Nonvenereal) Treponematoses
Chancroid
Lymphogranuloma Venereum
Granuloma Inguinale
Gonorrhea, Mycoplasma, and Vaginosis
Leishmaniasis and Other Protozoan Infections
Helminthic Infections
Scabies, Other Mites, and Pediculosis
Bites and Stings of Terrestrial and Aquatic Life
Arthropod Bites and Stings
Describe clinical and therapeutical Approach to patients affected by these infectious diseases.

Topic 9. Psoriatic Disease

Learning goals:

Describe the major symptoms/syndromes leading to the suspect of psoriatic disease;
Understand the epidemiology, pathogenesis, and differential diagnosis of psoriatic disease;



Understand the differential diagnosis of psoriatic disease;
Understand the major findings that are helpful in the diagnosis and management of patients;
Understand the therapeutic approach to psoriatic arthritis with a specific focus on systemic and biologic therapies.

Topic 10. Cutaneous lymphomas

Learning goals:

Describe the major cutaneous manifestations leading to the suspect of B cell and T cell primary cutaneous lymphoma (particular focus on diagnosis of Mycosis fungoides);
Understand the epidemiology, pathogenesis, and differential diagnosis of cutaneous lymphomas;
Understand the differential diagnosis of cutaneous lymphomas;
Understand the major histopathological and clinical findings that are helpful in the diagnosis and management of patients;
Understand the therapeutic approach to cutaneous lymphomas with a specific focus on systemic and biologic therapies.

Topic 11. Dermatology of dark skin

Learning goals:

Describe differences in skin lesions appearing of different phototypes
Recognize and describe skin diseases on dark skin
Leprosy and Atypical Mycobacteriosis



RHEUMATOLOGY AND CLINICAL IMMUNOLOGY

Academic year 2023-2024

1. Introduction to Rheumatology: approach to the patient with rheumatic diseases

Identify the major features of patients attending a rheumatology clinic;

Formulate possible differential diagnoses;

Determine the best areas for specific diagnostic tests (lab and imaging)

Describe the major symptoms/syndromes leading to the suspect of arthritis, vasculitis, connective tissue disease;

Discriminate between diagnostic and classification criteria

Identify the major serum patterns and lab abnormalities of patients attending a rheumatology clinic;

Formulate possible differential diagnoses based on lab results;

Determine the ideal lab tests based on the clinics;

Describe the established associations between autoantibodies and disease

Identify the major characteristics of the treatments used in the rheumatology setting;

Describe the indications and contraindications of steroids and NSAIDs;

Describe the mechanisms of action, indications and contraindications of DMARDs;

Describe the mechanisms of action, indications and contraindications of biologics and small molecules;

Describe the impact of comorbidities on treatment choices

Identify the gender-specific differences and patterns of disease in each rheumatological condition, including the use of medications and disease activity changes in pregnancy and menopause

2a. Connective tissue diseases: systemic lupus erythematosus

Describe the groups of connective tissue disease (i.e. systemic lupus, systemic sclerosis/scleroderma, inflammatory myositis, Sjogren syndrome, undifferentiated and mixed connective tissue disease) and their peculiar features;

Understand the epidemiology, pathogenesis, and differential diagnosis of systemic lupus erythematosus;

Understand the differential diagnosis of systemic lupus erythematosus;



Understand the major imaging (X ray, CT, MRI, ultrasound), invasive (arthrocentesis, etc), and laboratory (autoantibody, CRP) findings that are helpful in the diagnosis and management of patients with systemic lupus erythematosus;

Understand the cardiovascular, neoplastic, obstetric, and thrombotic complications of systemic lupus erythematosus

Understand the therapeutic approach to systemic lupus erythematosus;

2b. Connective tissue diseases: polymyositis / dermatomyositis (Dermatology + Rheumatology)

Understand the epidemiology, pathogenesis, and differential diagnosis of inflammatory myositis;

Understand the therapeutic approach to inflammatory myositis;

Understand the differential diagnosis of inflammatory myositis;

Understand the major imaging (X ray, CT, MRI, ultrasound), invasive (arthrocentesis, etc), and laboratory (autoantibody, CRP) findings that are helpful in the diagnosis and management of patients with inflammatory myositis;

Understand the cardiovascular, neoplastic, obstetric, and thrombotic complications of inflammatory myositis

3. The mechanisms of localized and generalized pain

Understand the mechanisms and pathways leading to pain sensitivity;

Describe the diagnostic and therapeutic approach to localized and generalized pain syndromes;

Understand the features of fibromyalgia and chronic fatigue syndrome with particular attention to the differential diagnosis and therapeutic approaches;

4. Vasculitides (Dermatology + Rheumatology)

Describe the major symptoms/syndromes leading to the suspect of vasculitis;

Understand the new classification of vasculitides;

Understand the epidemiology, pathogenesis, and differential diagnosis of vasculitides;

Understand the therapeutic approach to vasculitides, including non-pharmacological treatments;

Understand the major imaging (X ray, CT, MRI, ultrasound), invasive (vascular biopsy, etc), and laboratory (autoantibody, CRP) findings that are helpful in the diagnosis and management of patients with vasculitides;

Understand the systemic complications and sequelae of vasculitides



5. Degenerative cartilage disease / osteoarthritis

Describe the major symptoms/syndromes leading to the suspect of osteoarthritis and its complications;

Describe the risk factors for osteoarthritis;

Understand the differential diagnosis of osteoarthritis;

Understand the epidemiology, pathogenesis, and differential diagnosis of osteoarthritis;

Understand the therapeutic approach to osteoarthritis, including non pharmacological treatments;

Understand the major imaging (X ray, CT, MRI, ultrasound), invasive (arthrocentesis, etc), and laboratory (autoantibody, CRP) findings that are helpful in the diagnosis and management of patients with osteoarthritis;

Understand the cardiovascular and metabolic comorbidities of osteoarthritis

6. Rheumatoid arthritis

Determine the epidemiology and risk factors of rheumatoid arthritis, seronegative and seropositive;

Determine the pathogenesis of rheumatoid arthritis, seronegative and seropositive, with a specific focus on autoantibodies, TNFalpha, IL6, JAKs;

Understand the differential diagnosis of rheumatoid arthritis;

Understand the major imaging (X ray, CT, MRI, ultrasound), invasive (arthrocentesis, etc), and laboratory (autoantibody, CRP) findings that are helpful in the diagnosis and management of patients with rheumatoid arthritis;

Understand the therapeutic approach to rheumatoid arthritis with a specific focus on recommendations / guidelines;

7a. Connective tissue diseases: systemic sclerosis

Understand the epidemiology, pathogenesis, and differential diagnosis of systemic sclerosis;

Understand the therapeutic approach to systemic sclerosis;

Understand the differential diagnosis of systemic sclerosis;

Understand the major imaging (X ray, CT, MRI, ultrasound), invasive (arthrocentesis, etc), and laboratory (autoantibody, CRP) findings that are helpful in the diagnosis and management of patients with systemic sclerosis;

Understand the cardiovascular, neoplastic, obstetric, and thrombotic complications of systemic sclerosis



7b. Connective tissue diseases: Sjogren's syndrome

Understand the epidemiology, pathogenesis, and differential diagnosis of Sjogren's syndrome;

Understand the therapeutic approach to Sjogren's syndrome;

Understand the differential diagnosis of Sjogren's syndrome;

Understand the major imaging (X ray, CT, MRI, ultrasound), invasive (arthrocentesis, etc), and laboratory (autoantibody, CRP) findings that are helpful in the diagnosis and management of patients with Sjogren's syndrome;

Understand the cardiovascular, neoplastic, obstetric, and thrombotic complications of Sjogren's syndrome

8. Psoriatic disease (Dermatology + Rheumatology)

From the dermatology viewpoint:

Psoriasis epidemiology and pathogenesis

Distinguishing the different clinical forms of psoriasis

Basic principles of psoriasis management based on the most recent guidelines

When to refer a patient with psoriasis/psoriatic arthritis to a dermatologist/rheumatologist?

From the rheumatology viewpoint:

Describe the major symptoms/syndromes leading to the suspect of psoriatic arthritis;

Understand the epidemiology, pathogenesis, and differential diagnosis of psoriatic arthritis;

Understand the differential diagnosis of psoriatic arthritis;

Understand the major imaging (X ray, CT, MRI, ultrasound), invasive (arthrocentesis, etc), and laboratory (autoantibody, CRP) findings that are helpful in the diagnosis and management of patients;

Understand the therapeutic approach to psoriatic arthritis with a specific focus on recommendations / guidelines;

9a. Back pain and spondyloarthritis

Describe the major symptoms/syndromes associated with back pain;

Define spondyloarthritis;

Understand the epidemiology, pathogenesis, and differential diagnosis of ankylosing spondylitis and spondyloarthritis;

Understand the differential diagnosis of ankylosing spondylitis and spondyloarthritis;



Understand the major imaging (X ray, CT, MRI, ultrasound), invasive (arthrocentesis, etc), and laboratory (autoantibody, CRP) findings that are helpful in the diagnosis and management of patients;

Understand the therapeutic approach to ankylosing spondylitis and spondyloarthritis with a specific focus on recommendations / guidelines;

9b. Reactive and IBD (inflammatory bowel disease)-associated arthritis

Describe the major symptoms/syndromes leading to the suspect of reactive arthritis;

Describe the major symptoms/syndromes leading to the suspect of IBD associated arthritis;

Understand the epidemiology, pathogenesis, and differential diagnosis of reactive, enteropathic arthritis;

Understand the differential diagnosis of reactive, enteropathic arthritis;

Understand the major imaging (X ray, CT, MRI, ultrasound), invasive (arthrocentesis, etc), and laboratory (autoantibody, CRP) findings that are helpful in the diagnosis and management of patients;

Understand the therapeutic approach to reactive, enteropathic arthritis with a specific focus on recommendations / guidelines;

9c. Crystal-induced arthritis

Describe the major symptoms/syndromes leading to the suspect of gouty arthritis;

Describe the major symptoms/syndromes leading to the suspect of chondrocalcinosis;

Understand the epidemiology, pathogenesis, and differential diagnosis of hyperuricemia, gout, and chondrocalcinosis;

Understand the major imaging (X ray, CT, MRI, ultrasound), invasive (arthrocentesis, etc), and laboratory (autoantibody, CRP) findings that are helpful in the diagnosis and management of patients;

Understand the therapeutic approach to crystal-induced arthritis