MEDICINE AND SURGERY

Course: Dermatology and Clinical Immunology

Year: 4th
Period: 2nd semester
Credits: 4

DERMATOLOGY
Faculty: Antonio Costanzo (Coordinator), Riccardo Borroni, Alessandra Narcisi
Tutors for practical activities: Antonio Costanzo, Riccardo Borroni, Mario Valenti Alessandra Narcisi

RHEUMATOLOGY and CLINICAL IMMUNOLOGY
Faculty: Carlo Selmi, Elisa Gremese, 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 students should be able to recognize common dermatologic and rheumatological/ immunological scenarios and diagnoses 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 (i.e. 18 to 24) 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 optional.

Oral questions will refer to all topics from program of the course and will also include clinical case discussions. If the candidate takes the oral exam, the score obtained in the written test might be confirmed or changed (becoming either 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 epidermis and dermis No eh questa è una cosa da fare eh reumatica.
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 an 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 histopatological 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
Lepromarosis 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 or imaging results;

Determine the appropriate lab and imaging tests based on the clinical question;

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 risks associated with specific treatments (with a special focus on the infectious, neoplastic, and cardiovascular risks)

Understand the basic principles of the available recommendations for the management of each condition

Identify the gender-specific differences and patterns of disease in each rheumatological condition, including the use of medications and disease activity changes in relation to pregnancy, lactation, 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, inflammatory markers) 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;

Address the gender-specific issues of connective tissue diseases

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, inflammatory markers) 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;

Address the gender-specific issues of connective tissue diseases

2c. 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, inflammatory markers) 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

Address the gender-specific issues of connective tissue diseases

2d. 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, inflammatory markers) 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;

Address the gender-specific issues of connective tissue diseases

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. Vasculitidies (Dermatology + Rheumatology)

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

Understand the current classification of vasculitidies;

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

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

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

Understand the systemic complications and consequences of vasculitidies

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, inflammatory markers) 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, inflammatory markers) findings that are helpful in the diagnosis and management of patients with rheumatoid arthritis;

Discuss the applications and use of synovial histology in the management of rheumatoid arthritis;

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

7. Psoriatic disease (i.e. psoriasis and psoriatic arthritis / Dermatology and Rheumatology)

<u>From the dermatology viewpoint:</u>

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?

<u>From the rheumatology viewpoint:</u>

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, inflammatory markers) 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;

8a. Back pain and spondyloarthritis

Describe the major symptoms/syndromes associated with back pain;

Define spondyloarthritis;

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

Understand the differential diagnosis of ankylosing spondilytis and spondyloarthritis;

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

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

8b. 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;

9. 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, inflammatory markers) findings that are helpful in the diagnosis and management of patients;

Understand the therapeutic approach to crystal-induced arthritis in the acute and chronic settings