

**DEPARTMENT OF HEMATOLOGY  
COURSE IN HEMATOLOGY  
FOR STUDENTS OF FACULTY OF MEDICINE**

*The name of Unit in which the subject is realized*

**Department of Hematology**

**Ul. Unii Lubelskiej 1**

**71-252 Szczecin**

**Tel. 0-91 425 33 47**

**Fax. 0-91 425 33 57**

Head

**Prof. dr hab. Barbara Zdziarska**

Assistant for affairs teaching

**Dr n. med. Mirosław Franków**

*Total hours:*

**49 hours** include:

**14 h of seminars**

**35 h classes**

*ECTS:*

The aim of hematological course is preparation of future physician for diagnostics, differentiating and treatment, first of all, patient with primary anemias as well as secondary and bleeding disorders. Acquainting with bases of diagnostics and treatment of blood disorders disease. Cooperation of physician with hematological centers.

### **FORMS OF ACTIVITIES**

Subject of **Hematology** is carried out on V years in block system, and they include seminars, exercises at the patient's bed, and colloquiums. The test written on the last day of the course.

1. **Seminars** are conducted during 14 h in block system on V years. The seminars are carried out in group of 14-15 students a one tutor. Seminars are lasting one hour presenting theory of following subjects and showing pictures watched slides
2. **Classes with Hematology** include 35 h on V years. The classes are carried out in group of 5 students per tutor. Classes are lasting 5 h. At this time students perfect abilities collection of interview and research of patient with particular under corner of neoplastic disease research  
During the classes students are controlled by tutor with acquaintance of subject theory. Knowledge is checked in time of exercise from range given exercise in the form of oral or written

3. The material with hematology is controlled during colloquiums on the last day of the course as tests with uni- and multichoice questions. The test has two re-sits.

## **PROGRAM OF HEMATOLOGY**

1. Introduction to hematology, bone marrow, laboratory tests in hematology and their interpretation
  - Interpretation of result
  - Sources of errors
2. Deficiency anemias
  - Metabolism of iron in structure
  - Causes of deficiency of iron
  - Characteristic subjective signs and objective
  - Laboratory investigation of deficiency of iron.
  - Principles of treatment – choice medical preparation of iron and applications expensive way
  - Adverse effects of oral and intravenous drugs
  - Indications for intravenous treatment. Duration of treatment.
  - Monitoring of efficiency of treatment. Meaning of diet.
  - Reasons of inefficacy of treatment.
  - Causes of deficiency of vitamins B12 and folate
  - Appearance of clinical megaloblastic anemias
  - Diagnostics laboratory: blood and marrow film examination, probe Keya, immunological research. Treatment. Monitoring of efficiency of treatment.
3. Hemolytic anemias, anemias of chronic disease
  - Classification of the causes of haemolysis
  - Clinical signs and laboratory haemolysis
  - Intra and extravascular haemolysis
  - Haemolysis complications
  - Ethiology, occurrence and features of characteristic anemias of chronic diseases.
  - Base therapy
4. Hemorrhagic diatheses caused by platelets and vessel abnormalities
  - Primary and secondary haemostasis
  - Classification of the causes of thrombocytopenic purpura
  - Causes of thrombocytopenia
  - Symptoms of thrombocytopenia
  - Drug-induced thrombocytopenia
  - Idiopathic thrombocytopenic purpura
  - Microangiopathic hemolytic anemia
  - Post-transfusion and heparin-induced thrombocytopenia

- Indication platelets products
  - Congenital vessel wall abnormalities
  - Acquired vessel wall abnormalities. Proceed
5. Hemorrhagic diatheses caused by plasma factor disorders. DIC
    - Diagnostics and treatment of disseminated intravascular coagulation,
    - Distribution of bleeding disorders
    - Manner inherit hemophilia
    - Distribution of hemophilia
    - Clinical symptoms of hemophilia
    - Laboratory investigation of hemophilia
    - Complication hemophilia
    - Substitution therapy, prophylaxis and genetic counseling
    - Clinical presentation of von Willebrand disease
    - Differentiate ch. V. Willebrand with hemophilia.
    - Pathogenesis of DIC. Causes. Clinical presentation and biochemical diagnosis. Therapeutic procedure.
  6. Thrombophilias and treatment with anticoagulants and fibrinolytics
    - Definition of thrombophilia
    - Distribution. Factors predisposing to venous thrombosis
    - Clinical presentation
    - Laboratory investigation of thrombophilia
    - Principle prophylaxis and treatment
  7. Antineoplastic treatment
    - Mechanism of operation
    - Indication
    - Adverse effects and prophylaxis
    - Counterindications
  8. Myeloproliferative syndromes
    - Pathogenesis and clinical presentation of CML
    - Laboratory and genetic investigation
    - Differentiation with other reasons leucocytosis. Treatment. Clinical presentation of PV
    - Laboratory investigation of PV. Capability and principles of treatment
    - Differentiation with causes of secondary erythrocytosis
    - Clinical presentation and criterion diagnostics of primary thrombocythaemia. Indication for treatment.
    - Differentiation with causes of secondary thrombocytosis
    - Clinical presentation of myelofibrosis.
    - Differentiation with other reasons pancytopenia. General principle of treatment
  9. Malignant lymphomas
    - Definition of low-grade NHL and high-grade NHL
    - Symptoms at presentation of malignant lymphomas

- Essential research diagnostics
- Definition period disease and predictors
- Base treatment
- Similarity and differences between hodgkin lymphoma and non-hodgkin lymphoma

#### 10. Emergencies in hematology part 1

- Metabolic complications (ATLS, hypercalcemia in npl)
- Cardiovascular complications (venous thromboembolic disease)
- Gastrical complications (nausea and vomiting, mucositis, necrotising enterocolitis)

#### 11. Emergencies in hematology part 2

- Infectious complications (neutropenic fever, heavy sepsis, septic shock)
- Neurological complications (
- Urological complications (hemorrhagic cystitis)
- Pulmunological complications (dyspnea and respiratory inefficiency)

#### 12. Multiple Myeloma and other monoclonal gammopathies

- Clinical presentation
- Laboratory investigation of Multiple Myeloma
- Complications and prophylaxis
- Treatment
- Monoclonal gammopathy of uncertain significance (MGUS) meaning and it proceed principle

#### 13. Bone marrow – and stem cell transplantation and treatment with blood products

- Blood components
- Indication of blood products
- Immediate and delayed adverse effects associated with transfusion
- Kind transplantation
- Defects and advantages of kind of individual transplantations
- Selection donor
- Distant result transplantation
- Post- transplantation care

#### 14. Acute leukemias

- Clinical presentation
- Laboratory investigation of acute leukemias
- Prognostic factors
- Principle treatment

#### Textbooks

1. Davidson's Principles and Practice of Medicine 20<sup>th</sup> Edition 1996