Astana Medical University
Department of Internal Disease №1

SIW

Topic: chronic lymphocytic leucosis

Made by Yeleukenova Zhanel 463 GM
Check by Baidurin S. A.

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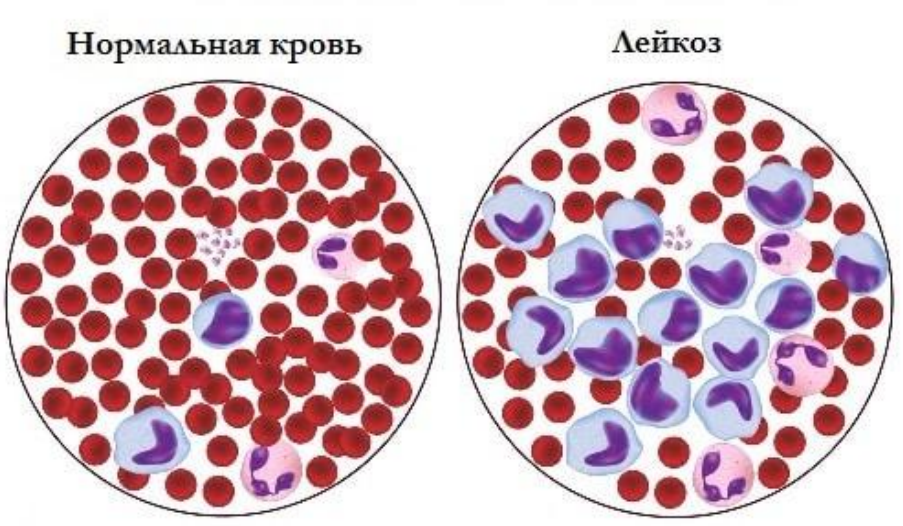
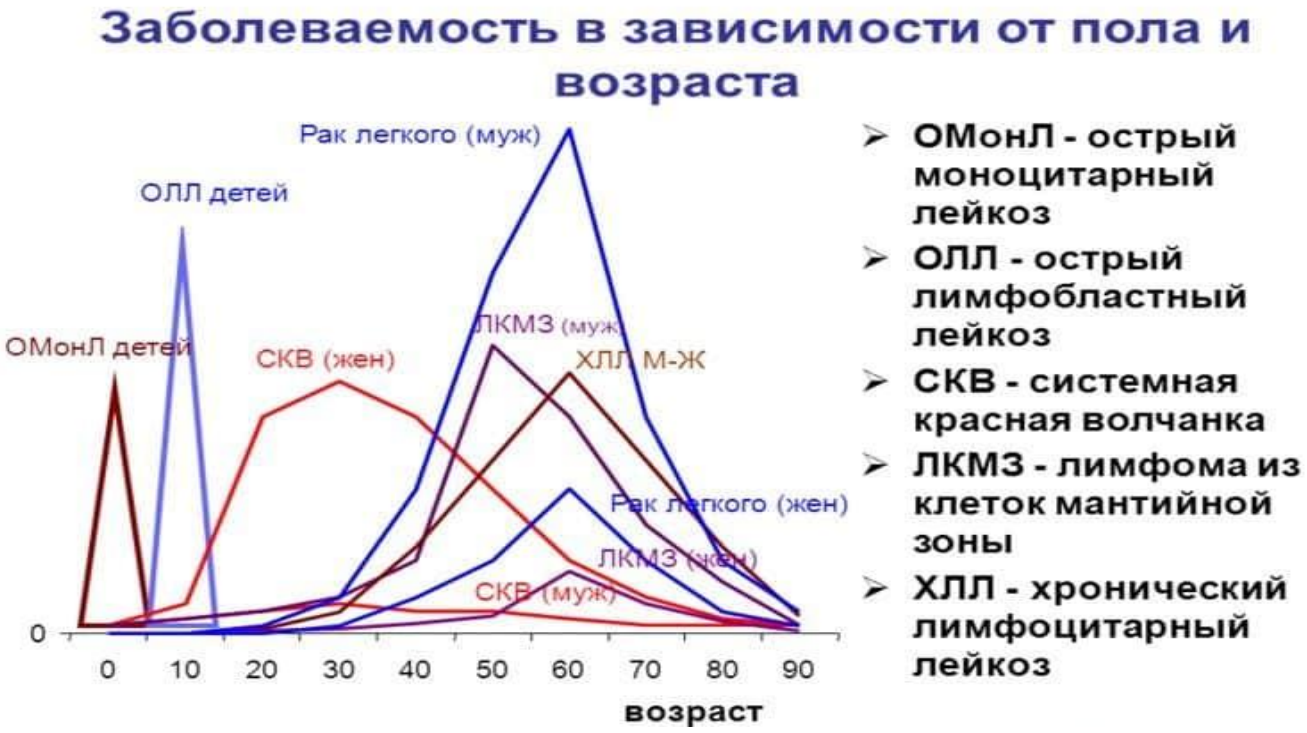
Chronic lymphocytic leucosis

- The chronic lymphocytic leucosis is a widespread kind of a blood cancer at which emergence of the pathological mature neoplastic lymphocytes having abnormally long life expectancy is observed.



Etiology

- More than 2/3 all patients passed an age threshold in 60 years.



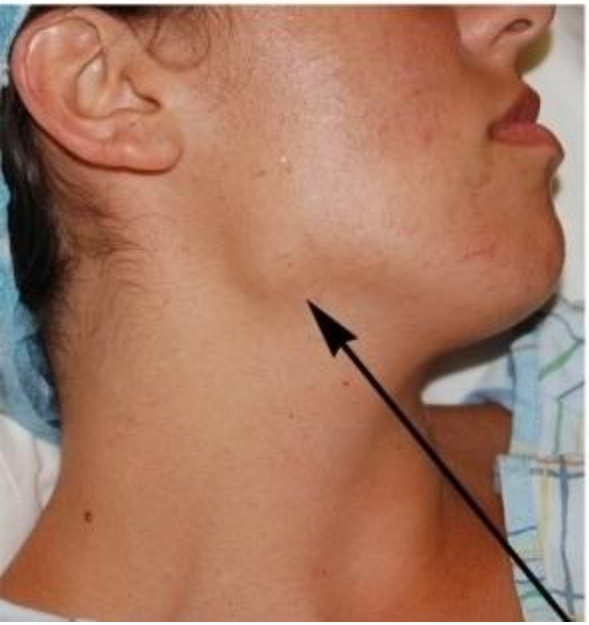
Exogenic factors	Endogenic factors
The ionizing and magnetic radiations	Metabolic disturbances in an organism
Chemicals (benzene, pistetsids)	Immunodeficiency
Medicinal preparations	Chromosomal mutations
Viruses	

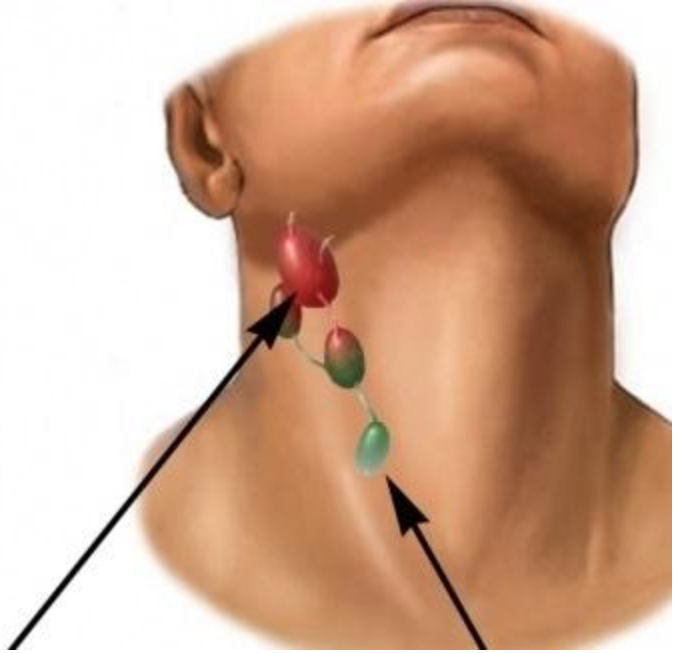
Pathogenesis

- There is a mutation of cells of predecessors of lymphocytes, DNA is programmed on a proliferation of abnormal lymphocytes.
- At first the damaged lymphocytes gather in lymph nodes. After achievement of a certain quantity they with current of a lymph migrate in a lien and a liver, thus, promoting augmentation of the sizes of the above-named organs. In process of the attack of marrow, malignant lymphocytes replace normal cells, provoking, anemic processes and reduction of quantity of healthy formulated elements of a blood. In parallel to these processes note decrease of the activity of antibodies.

Clinics

- Often at early stages the chronic lymphocytic leukosis doesn't prove in any way. If symptoms nevertheless appeared, belong to them:
- The lymphadenitis which isn't followed by pain
- Fatigue
- Temperature increase
- Pain in the top left part of a stomach which can be caused by lien augmentation
- Night sweating
- Loss of weight
- Frequent infections





- The generalized lymphadenitis which merge in huge soft or dense packages becomes perceptible.
- The lien reaches the appreciable sizes, its mass is enlarged

Classification

Stage 0	**Lymphocytosis of a peripheral blood and marrow (more than 10000 cells in 1 мкл bloods and not less than 40% of lymphocytes among formulated elements of marrow)**
Stage the I	**Lymphocytosis and the enlarged lymph nodes**
The stage the II	**Exept of signs of stages 0 and I, is available gepato-and a splenomegaly**
Stage of III	**Besides signs stages of 0, I and II, HB 110 g/l**

- Group A (forecast good, more than 10-year survival) HB> 100 g/l; the quantity of thrombocytes > 100x10/l is struck less than 3 organs
- Group B (the forecast intermediate) the Maintenance of HB and thrombocytes the same, as in group A; 3 organs and more are struck
- Group C (forecast bad, less than 2-year survival) HB <100 g/l; quantity of thrombocytes <100x10/l

Diagnosis

- Blood test. By quantity of blood cells and their look under a microscope it is possible to suspect a leucosis. Most of patients with a chronic leucosis has an increased quantity of leucocytes and l, depression of number of erythrocytes and lymphocytes d thrombocytes. The maintenance of cells of a leykolizis is enlarged (Botkin's – Gumprekht cells)

- Biochemical blood test helps to specify function of kidneys and structure of a blood.

- The research of marrow gives the chance to establish the diagnosis of a leukosis and to estimate efficiency of treatment. Hyperplasia of lymphocytic elements.

- For the purpose of specification like a leukosis special methods of a research are used: cytochemistry, flowing cytometry, immunocytochemistry, cytogenetics and molecular and genetic research.

- X-ray inspections of a thorax and bones allow to tap a lesion of lymph nodes of a mediastinum, bones and joints.

- The Computer Tomography (CT) gives the chance to find a lesion of lymph nodes in a thoracal cavity and a stomach.

- The Magnetic Resonance Imaging (MRI) is especially shown at a research of a head and spinal cord.

- Ultrasonography (US) allows to distinguish tumoral and cystic educations, to tap a lesion of kidneys, liver and lien, lymph nodes.

Treatment

- Patients are younger than 70 years and without serious associated diseases of Hemoimmunoterapiya;

Fludarabin + Cyclophosphamide + Rituximab (FCR);

Fludarabin + Rituximab (FR);

Pentostatin + Cyclophosphamide + Rituximab (PCR);

Bendamustin + Rituximab (BR);

Obinutuzumab + Hlorambutsil.

- Patients are more senior than 70 years, or with serious associated diseases Obinutuzumab + Hlorambutsil;

Rituximab + Hlorambutsil;

Bendamustin (70 mg/sq.m in 1 cycle with rising to 90 mg/sq.m) + Rituximab (BR);

Cyclophosphamide + Prednizolon± Rituximab;

Rituximab;

Флударабин±Ритуксимаб;

Kladribin;

Hlorambutsil.

Treatment of a recurrence and refractory options of HLL

- Choice drug at treatment of a recurrence and refractory options of HLL is Ibrutinib. Ibrutinib in a dose of 420 mg is applied (3 x 140-mg in capsules).

Indications for treatment ibrutiniby:

- · ECOG status 0-1.
- · The diagnosis of HLL, is established according to criteria of the mezhunanarodny working group on studying of HLL, 2008;
- · Existence of indications by the beginning of therapy.
- · To the patient должнен to be conducted at least one course of therapy of HLL with including of purine analogs or is taped

Complications

- Frequent infectious diseases. The people suffering from a chronic lymphocytic leukosis often have infectious diseases. In most cases it is infections of the top and lower respiratory tracts. In certain cases there can be more serious infectious diseases.
- Formation of more aggressive form of cancer. A small amount of the people suffering from a chronic lymphocytic leukosis can have more aggressive form of cancer, a so-called diffuse V-macrocellular lymphoma. Sometimes such degeneration is called Richter's syndrome.

- Augmentation of risk of emergence of other forms of malignant neoplasms. At the people suffering from a chronic lymphocytic leukosis the risk of formation of other types of cancer, such as melanoma, cancer of a lung and cancer of digestive tract is increased.
- Disturbances from immune system. At a small share of patients with a chronic lymphocytic leukosis the autoimmune disease at which the cells of immune system designed to protect an organism from an infection by mistake attack erythrocytes or thrombocytes develops