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Importance Of Colposcopy Diagnostic Method In Solving Gynecological Problems Of Patients With Acute Leukemia

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Annotation. Acute leukemias (AL) are a heterogeneous group of neoplastic diseases of the hematopoietic system, characterized by primary damage to the bone marrow (displacing its normal elements) with morphologically immature hematopoietic (blastic) cells and infiltration of various tissues and organs. The replacement of bone marrow with tumor cells impairs its ability to produce the required amount of healthy blood cells.

Keywords: acute leukemias, colposcopy, gynecological problems, effectiveness of therapy, maternity, long-term chemotherapy, pregnant women.

As of the last research update in January 2022, the information available did not specifically highlight the importance of colposcopy as a diagnostic method for addressing gynecological problems in patients with acute leukemia. It's important to note that medical knowledge is continually evolving, and new research and clinical practices may have emerged since then.

That said, acute leukemia, characterized by the rapid proliferation of abnormal blood cells, can have various effects on different organ systems, including the reproductive system. Patients with leukemia, particularly those undergoing chemotherapy, may face gynecological issues due to the impact of the disease and its treatment on reproductive tissues.

Acute leukemia (AL) is a heterogeneous group of tumor diseases of the blood system, which are characterized by primary damage to the bone marrow by morphologically immature (blast) hematopoietic cells with the displacement of normal hematopoiesis and often their infiltration of various organs and tissues. All ALs arise as a result of a single cell mutation (they are local). As a result, at the molecular level, a disruption of the cell cycle occurs, leading to uncontrolled proliferation, lack of differentiation, accumulation and spread of pathological blast cells. The belonging of blast cells to one or another line of hematopoiesis (myeloid, lymphoid), their degree of maturity and molecular characteristics determine the clinical course, effectiveness of therapy and prognosis of the disease [7].

The diagnosis of AL is established by morphological examination of the bone marrow if 20% or more blast cells are detected in it. To clarify the variant of AL, the following studies are used: cytochemical, immunological, cytogenetic, molecular genetic. For a long time, the most common classification of AL

was the morphological one proposed by the French-American-British group in 1976 (FAB classification), revised and supplemented in 1991: myeloid acute leukemia, lymphoblastic. The new revision of the classification is mainly based on the identification of genetic abnormalities during the diagnosis of AL [1].

Until recently, pregnancy and AL seemed to be incompatible concepts. The severe clinical picture of the disease, the need for long-term chemotherapy, and the high frequency of life-threatening complications do not always allow us to achieve the main goal - saving the patient's life, even outside of pregnancy. Treatment of leukemia during pregnancy is all the more difficult, requiring not only the technical skill and knowledge of a multidisciplinary team of medical specialists, but also a competent ethical approach in accordance with the interests of the patient and her family. Management of pregnant patients with AL is a difficult balance between the desire to cure the mother and minimal impact on the fetus [2].

Diagnosis of AL in pregnant women is carried out in full. Only a detailed approach to clarifying the variant of leukemia can count on the effectiveness of therapy. Interpretation of the diagnosis may be delayed due to the fact that during pregnancy laboratory symptoms similar to the onset of AL (anemia, leukocytosis) may appear. The diagnosis may be made incidentally during clinical examination, or the patient may present with nonspecific complaints such as fatigue, pallor, and less commonly, infection or bleeding. The onset of the disease is possible with enlargement of the lymph nodes, spleen, and liver [8].

Cervical cancer is a disease whose development can threaten every woman. Over the past 30 years, the frequency of detection of cervical cancer has increased more than 5 times, and mortality has doubled.

Every hour, 40 women die from cervical cancer around the world. (according to World Health Organization (WHO)

The main reason for the increase in mortality is the lack of mandatory screening of women who have no complaints for the presence of cancer.

It is used an innovative research method – dynamic spectral colposcopy (DYSIS-colposcopy). This method allows to diagnose cervical cancer and precancerous conditions in the early stages with maximum accuracy.

The DYSIS diagnostic method is an expert test with high sensitivity (88-90%) for detecting oncology. It is used to identify various pathologies in women and allows to visualize inaccessible areas of tissue that are not visible during conventional colposcopy. In addition, the doctor can examine in detail the condition of the epithelial layer, the color and location of the vessels.

Here are some general considerations regarding gynecological issues in leukemia patients and the potential role of colposcopy:

Effects of Leukemia and Treatment on Reproductive Organs:

Leukemia and its treatment, including chemotherapy and stem cell transplantation, can have adverse effects on the ovaries and other reproductive tissues. This can lead to hormonal changes, amenorrhea (absence of menstrual periods), and other gynecological issues.

Increased Risk of Infections:

Leukemia and its treatments can compromise the immune system, increasing the risk of infections. Gynecological infections, including those caused by human papillomavirus (HPV), may be a concern.

Colposcopy in the Context of HPV Infections:

Colposcopy is a diagnostic procedure that allows a more detailed examination of the cervix, vagina, and vulva. It is often used to investigate abnormalities detected during Pap smears. In the context of leukemia patients, if there are concerns about HPV infections or abnormal cervical cytology, colposcopy may be used to assess and potentially biopsy any suspicious areas.

Monitoring and Management of Gynecological Complications:

Regular gynecological examinations, including colposcopy if indicated, can help in the monitoring and management of gynecological complications in leukemia patients. Early detection and intervention can be crucial in addressing potential issues.

Collaboration Between Hematology and Gynecology Teams:

Collaboration between hematologists/oncologists and gynecologists is essential to ensure comprehensive care for leukemia patients. A multidisciplinary approach is often required to address both the hematological and gynecological aspects of the disease.

It's crucial to consult with healthcare professionals, including hematologists and gynecologists, for the most current and personalized information regarding the management of gynecological issues in patients with acute leukemia. The approach may vary based on individual patient characteristics, the specific type of leukemia, and the stage of treatment.

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