

## NON-HODGKIN'S LYMPHOMA OF NASOPHARYNX DIAGNOSED DURING PREGNANCY (A CASE FROM PRACTICE)

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The article presents the case of 32 years old woman with non-Hodgkin's lymphoma of the nasopharynx who received the anticancer treatment at 21–26 weeks of pregnancy (20 courses of radiation in dose of 40 Gy on the right half of the nasopharynx). The pregnancy was performed by cesarean section at the term of 32 weeks, and a healthy girl was born. Timely diagnosis and correct treatment of non-Hodgkin's lymphoma give the woman a chance to have a healthy child.

**Key Words:** pregnancy, non-Hodgkin's lymphoma, fetus, newborn

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Cancer is the second leading cause of death in women of reproductive age. The most common tumors diagnosed during pregnancy are breast and cervical cancer, Hodgkin's lymphoma and non-Hodgkin's lymphoma, leukemias, and malignant melanoma. The aim of therapy in pregnancy is to give optimal treatment to a mother without harm to a fetus. In the first trimester organogenesis continues, so chemotherapy should not be given because of increasing risk of spontaneous abortion, fetal malformation, and mortality.

One of important and actual problems of modern oncology and hematology is diagnostics and treatment of non-Hodgkin's lymphoma [1, 2]. Frequency of non-Hodgkin's lymphoma is constantly increasing both in Ukraine and in the world. From the data of National Cancer-Register Bulletin of Ukraine an amount of the first registered cases of non-Hodgkin's lymphomas in 2008 year was 2088. An index of morbidity on 100 thousands of population is 4.4, among women — 3.6, among men — 5.4. Lethality of primary patients with non-Hodgkin's lymphomas in Ukraine is 36.5% during one year. In 30–35 % of patients the primary standard treatment results in the progressing or relapse of the disease. The index of five-year survival in the group of patients does not exceed 30–40%. Thus, the problem of diagnostics and treatment of non-Hodgkin's lymphomas is of high actuality [3].

Also, practical gynecologists have the certain warnings concerning the conduct of pregnancy and births in women with oncopathology in anamnesis, especially if this pathology is diagnosed during pregnancy [4–6]. Most of women with such diagnosis do not risk to plan a pregnancy, because they are afraid to give a sick child and don't know where to receive a qualified help.

In this case report, we have retrospectively analyzed a case of a patient with non-Hodgkin's lymphoma of nasopharynx that was diagnosed during pregnancy and who received anticancer treatment during pregnancy.

The patient O.P., 32 years of old, was under a supervision in woman's consultation at the home clinic concerning the first pregnancy. She was complaining a bed nasal breathing, obstruction of the nose, short breathing, headache, which was not controlled under the standard methods of treatment. After consultation the non-Hodgkin's lymphoma of nasopharynx was diagnosed.

The patient appealed to the medical genetic center of Institute of Hereditary Pathology (Lviv, Ukraine) for determination of possible risk for birth defects and abnormalities of her child, as far as the malignant tumor was diagnosed during pregnancy and she disagreed on terminating pregnancy.

During the genealogical examination it has been found that her paternal uncle died from the cancer of digestive system at the age of 50. Husband's aunt died at age of 70 from cancer of inner organs. Birth defects, abnormalities, childless marriages, abortions, stillbirth were not discovered in this family tree. The woman wanted to save pregnancy and to have a child, so she was looking for support and help in different state and private clinics.

At the comprehensive assessment of pregnant woman somatic pathology was not found, only increased post-neck lymphatic nodules from both sides (0.2–0.4 cm).

Computer tomography from 29.12.2009 has revealed the picture of volume process of right half of nasal cavity with distribution to the right wall of nasopharynx. It needed differentiation between tumor and polyposis. While at the beginning of observation blast cells were not found, but complaint increased and the clinical state got worse; so other researches were done. Immunological research, conducted on 14.01.2010, did not find signs of clonal proliferation of cells. Morphological research from 20.01.2010 of bone marrow discovered 21–23% lymphocytes, blast cells were not found. Pathoanatomical conclusion of trepanation of iliac bone from 27.01.2010 revealed the focal affection of marrow diagnosed as at a large cell lymphoma. The analysis of blood from 25.01.2010, done in a term of 16–17 weeks of pregnancy, demonstrated

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only the high indexes of ESR — 42 mm per hour, and insignificant decrease of hemoglobin — 105 g/L. Other blood indexes and coagulogram were normal. During ultrasound examination from 03.02.2010 what corresponded to 18 weeks of pregnancy, no pathologies and abnormalities of fetus organs and placenta were found. Only an uterus was in hypertonus. During the dynamic ultrasound examinations no pathology of fetus, and fetometric data according to the term of gestation were found. The repeated computer tomography of brain from 25.02.2010 found the signs of tumor of right half of nasal cavity with dissemination in ethmoidal, sphenoid and maxillary sinuses at the same side.

Conclusion of internal pathology specialists: 17 weeks pregnancy, a non-Hodgkin's lymphoma of right half of nasal cavity. A patient was informed about the risk of birth defects, malformations, lack of amniotic fluid and possible antenatal death of fetus.

Taking into account woman's categorical refusal of medical abortion, the tactic of treatment was limited to the tele-gamma-therapy at the maintenance of pregnancy. On the patient's consent the treatment was conducted from 01.03.2010 to 10.04.2010 during 21–26 weeks of pregnancy (20 courses of irradiation in a dose 40 Grey on the right half of nasal cavity). The patient listened to the advices of doctors, which took into account all risks (mutagenic, teratogenic, and also carcinogenic effects on a fetus), and the chances of successful completion of pregnancy, that support her faith and her hope to born a healthy child. After termination of tele-gamma-therapy, relapse of tumor was not found.

The conclusion of oncologists from 20.04.2010 was: a non-Hodgkin's lymphoma of nasal cavity grade II, state after a tele-gamma-therapy, 28 weeks of pregnancy. They recommended the woman to prolong the treatment after delivery.

As the clinical manifestation of non-Hodgkin's lymphoma of nasal cavity was revealed in the II trimester of pregnancy, a risk of the teratogenic effect is low (1–2%). The conducted tele-gamma-therapy during pregnancy (21–26 week) promotes the risk of new mutations, particularly in the somatic cells of fetus to 1–2%, and also an appearance of dysmorphic minor birth anomalies. The pregnant woman was informed about possible carcinogenic effect on fetus (1–2%), and also the risk of low birth weight, decreased immunity of child and perinatal losses with recognition of general population risk — 5%. The total risk of birth defects and hereditary pathology in this situation was 8–11%. The decision of woman was to prolong pregnancy and to give birth to a child.

At the term of 32 weeks of pregnancy (18.05.2010) by Caesar section the healthy girl was born with the weight of 2040 g, height of 45 cm, by 7 points of Apgar.

The newborn was diagnosed with anaemia of I-st degree (109 g/L).

Regardless on heavy oncological pathology, the patient felt normal after delivery. The woman began the course of chemotherapy (mabtera, cyclophosphamide, doxorubicin, vincristine) in July, 2010 — 1.5 months after delivery, and continues the treatment. Undesirable effect of treatment was alopecia, diarrhea, enhanceable nervousness.

01.10.2010 at the age of 4.5 months, the child's weighs was 6 kg, haemoglobin was 150 g/L. After the child's examination, a conclusion of pediatrician, neurologist, haematologist and other specialists was "clinically healthy, physical growth corresponds to the age".

This case from practice, about the non-Hodgkin's lymphoma of nasal cavity in pregnant woman and its correct treatment during pregnancy, has showed how to overcome acute flow of illness, to born a healthy child, and continue treatment after delivery, when a patient is positively adjusted by doctor's and family support [7–8]. The close collaboration of gynecologists, oncologists, geneticists and doctors of other specialities, the selection of correct treatment modality of cancer during pregnancy reduce the risks of complications and delivery and give woman a chance to born a healthy child.

## REFERENCES

1. **Anatolian Medical Oncology Society Group, Ustaalioglu BB, M Gumus.** Malignancies diagnosed during pregnancy and treated with chemotherapy or other modalities (review of 27 cases): multicenter experiences. *Int J Gynecol Cancer* 2010; **20**: 698–703.
2. **Azim HA, Pavlidis N., Peccatori FA.** Treatment of the pregnant mother with cancer: a systematic review on the use of cytotoxic, endocrine, targeted agents and immunotherapy during pregnancy. Part II: Hematological tumors. *Cancer Treat Rev* 2010; **36**: 110–21.
3. **Cancer in Ukraine, 2006–2007.** Bulletin of the National Cancer Register of Ukraine, №9, Kyiv, 2008: 70–1 (in Ukrainian).
4. **Suchová K, Obrtlíková P, Binder T, et al.** Burkitt lymphoma in pregnancy - case report. *Ceska Gynecol* 2010; **75**: 248–51.
5. **de Wildt S, Taguchi N, Koren G.** Unintended pregnancy during radiotherapy for cancer. *Nat Clin Pract Oncol* 2009; **6**: 175–8.
6. **Teran-Porcayo MA, Gomez-Del Castillo-Rangel AC., Barrera-Lopez N, et al.** Cancer during pregnancy: 10-year experience at a regional cancer reference center in Mexico. *Med Oncol* 2008; **25**: 50–3.
7. **Shmakov R, Demina E.** Clinical management of pregnancy in lymphomas. *Practical Oncology* 2009; **10**: 228–36 (in Russian).
8. **Lee JS, Bracci PM, Holly EA.** Non-Hodgkin lymphoma in women: reproductive factors and exogenous hormone use. *Am J Epidemiol* 2008; **168**: 278–88.