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Exudative pericarditis in a pregnant woman as the first sign of non-Hodgkin's lymphoma

Wysiękowe zapalenie osierdzia pierwszym objawem chłoniaka nieziarniczego u kobiety w ciąży

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Abstract

This case report presents a 25 year-old pregnant female diagnosed with exudative pericarditis which was the first sign of cardiac lymphoma. Such a manifestation of this disease is rare and it represents a significant diagnostic and therapeutic problem in pregnant women.

Key words: cardiac lymphoma, pregnancy, pericarditis

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INTRODUCTION

A female patient, aged 25 years, in the 15th week of her first pregnancy, was transferred to our Department with suspected cardiac tamponade from the obstetric-gynaecological ward of a district hospital, where she had been diagnosed with bronchitis and treated with ceftriaxone, fenoterol, and oxygen therapy. The medical examination performed on admission revealed a dull percussion sound over the right pulmonary fields, reaching up to the level of the eighth rib. Electrocardiography showed sinus rhythm at 92 bpm, and her blood pressure was 90/70 mm Hg. Echocardiography revealed the presence of a 1.1 cm pericardial effusion, compressing the right atrium; no other abnormalities were found. Apart from the routine laboratory tests, the patient's blood was also tested for systemic diseases.

On the day after admission, at the Cardiac Surgery Ward, a drainage tube was placed in the pericardial space and 130 mL of exudate was removed and sent for cytological and microbiologic analyses. During the hospitalisation, 950 mL of fluid was drained from the right pleural cavity and no acid-fast bacilli were found in the fluid. Due to the unclear clinical manifestation, at the consultation meeting with clinical radiologists, a decision was made to perform a chest X-ray on this pregnant woman. The image revealed a tumour in the right mediastinum (Fig. 1).

Videothoracoscopy was carried out with targeted biopsy of the tumour and the pleural cavity at the Department of Thoracic Surgery of the University Hospital. Histopathological and immunohistochemical findings confirmed the diagnosis of a diffuse large B cell lymphoma, CD20(+++), CD3(–), bcl-2(+), CD30(+++), CD10(–) (according to WHO classification).

Eight days after this videothoracoscopy, the patient, with pronounced dyspnea at rest and signs of fluid in the right pleural cavity, was transferred to the Department of Haematology. Echocardiography revealed the presence of a small amount of fluid in the pericardium. Abdominal ultrasound showed no abnormalities. Ultrasound of the neck, right side, at the level of the carotid artery bifurcation, showed an 18-mm long lymph node. The cytological, cytometrical and histological tests revealed no bone marrow infiltration. The fluid removed from the right pleural cavity contained no lymphomatous cells.

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Figure 1. Chest X-ray (PA view) showing mediastinal mass

Considering the patient's general condition and the disease's progression, a decision was made to immediately start CHOP therapy (doxorubicin 80 mg *i.v.* [once a day], vincristine 2 mg *i.v.* [once a day], cyclophosphamide 1,200 mg *i.v.* [once a day], and prednisone 100 mg [up to five times a day]). The next day, the patient was given the first cycle of the treatment. Prior to and following the chemotherapy, the patient was also seen by a gynaecologist, who found that her pregnancy and the foetus's anatomy were normal. After three cycles of chemotherapy, an improvement was seen in the (no-contrast) magnetic resonance imaging: a decrease in the mediastinal lymph node mass and reduced amount of pericardial fluid. A decision was made to continue chemotherapy. Currently, the patient is awaiting her fifth course of CHOP treatment.

DISCUSSION

Exudative pericarditis may be the result of connective tissue disease, metabolic disorders, injury, myocarditis, malignancy, or it can be idiopathic. In the described case, diagnostics of exudative pericarditis was performed in the pregnant woman, in whom the initial symptoms, suggestive of bronchitis, had occurred in the 15th week of her first pregnancy. A routine panel of diagnostic tests was run, and the fluid from the pericardial sac and pleural cavity was analysed. However, it was the X-ray that proved crucial for diagnosis. Due to the patient's pregnancy, the examination was only performed after obtaining approval from the radiologists.

This disease usually starts with asymptomatic enlargement of the lymph nodes. This may cause symptoms resulting from compression of the adjacent organs. Rare cases of primary cardiac lymphomas manifested as exudative pericarditis and cardiac tamponade have been reported [1].

Cases of lymphomas in pregnant women are rare. The clinical course of Hodgkin's lymphoma is unaffected by pregnancy. Most of the research done so far has found no significant differences between the initial stage of the disease, the clinical outcome or the histological subtype of Hodgkin's lymphoma compared to a control group of women of child-bearing potential.

Aggressive and very aggressive lymphomas, especially those of Ann-Arbor stage III–IV, represent the majority of non-Hodgkin's lymphoma cases diagnosed during pregnancy. This most probably results from the increased incidence of aggressive and very aggressive lymphomas in young people, as well as the aggressive course of these lymphomas, or delay in diagnosis in pregnant women. Furthermore, in pregnant women the affected organs often include the uterus, cervix, ovary and breasts. It has been suggested that this is related to hormonal factors or the increased blood flow through these organs [2].

Considering the very aggressive clinical course, and that it was the first trimester of pregnancy, a decision to implement chemotherapy (CHOP) was made. Due to their small molecular mass, most cytostatic agents pass through the placenta. Animal studies have shown teratogenic effects of nearly all cytostatics.

The survival prognosis of pregnant women with lymphoma is comparable to that of non-pregnant patients with lymphomas [2, 3]. A direct effect of lymphoma on the foetus has only been observed in a very few cases. In the case of Hodgkin's lymphoma, it has been documented that its direct influence does not increase the risk of prematurity or hypotrophy in the foetus [4]. There is a possible risk associated with the diagnostic procedures, chemotherapy and radiotherapy which affect the foetus. Nevertheless, data from literature indicates that a correct use of chemo- and radiotherapy during pregnancy does not negatively impact upon the foetus or the woman's future child-bearing potential.

CONCLUSIONS

Cardiac manifestation of lymphoma is rare and produces significant diagnostic and therapeutic problems during pregnancy.

Conflict of interest: *none declared*

References

1. Wajs LE, Arsos G, Baarslag HJ et al. Pericardial involvement in a non-Hodgkin lymphoma patient: coregistered FDG-PET and CT imaging. Eur Heart J, 2007; 28: 2698.
2. Gelb AB, Van de Rijn M, Warnke RA et al. Pregnancy-associated lymphomas. A clinicopathologic study. Cancer, 1996; 78: 304–310.
3. Pereg D. Koren G, Lishner M. The treatment of Hodgkin and non-Hodgkin lymphoma in pregnancy. Haematologica, 2007; 92: 1230–1237.
4. Lishner M, Zemlickis D, Degendorfer P et al. Maternal and foetal outcome following Hodgkin's disease in pregnancy. Br J Cancer, 1992; 65: 114–1147.