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Successful Chemotherapy on a Pregnant Non-Hodgkin's Lymphoma Patient

Hironobu Toki[*] Henichi Okabe[†] Haruto Kamei[‡]
Tatsuo Shimokawa[**] Masamichi Hiura[††]
Masashi Kondo[‡‡] Yuichi Hirota[§]

[*]Shikoku Cancer Center Hospital,
[†]Shikoku Cancer Center Hospital,
[‡]Shikoku Cancer Center Hospital,
[**]Shikoku Cancer cernter Hospital,
[††]Shikoku Cancer Center Hospital,
[‡‡]Matsuyama Red Cross Hospital,
[§]Matsuyama Red Cross Hospital,

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Hironobu Toki, Henichi Okabe, Haruto Kamei, Tatsuo Shimokawa, Masamichi Hiura, Masashi Kondo, and Yuichi Hirota

Abstract

We report a case of a non-Hodgkin's lymphoma (NHL) patient treated successfully with combination chemotherapy during pregnancy who delivered a full-term baby. A 29 year-old patient with cervical and inguinal lymphadenopathy in the 27th week of gestation was referred to our hospital. The diagnosis of lymph node biopsy was NHL (diffuse, large cell type with B-cell phenotype). Three courses of CHOP regimen (adriamycin, cyclophosphamide, vincristine and prednisolone) were given before delivery. The patient has been in complete remission for three years and her baby has been in normal development. Our case supports previous reports that chemotherapy in the third trimester may be given safely on NHL patients.

KEYWORDS: non-Hodgkin's lymphoma, pregnancy, chemotherapy

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— Brief Note —

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Hironobu Toki*, Kenichi Okabe, Haruto Kamei, Tatsuo Shimokawa[a], Masamichi Hiura[b], Masashi Kondo[c] and Yuichi Hirota[c]

Departments of Medicine, [a]Pediatrics and [b]Gynecology, Shikoku Cancer Center Hospital and [c]Department of Medicine, Matsuyama Red Cross Hospital, Matsuyama 790, Japan

We report a case of a non-Hodgkin's lymphoma (NHL) patient treated successfully with combination chemotherapy during pregnancy who delivered a full-term baby. A 29 year-old patient with cervical and inguinal lymphadenopathy in the 27th week of gestation was referred to our hospital. The diagnosis of lymph node biopsy was NHL (diffuse, large cell type with B-cell phenotype). Three courses of CHOP regimen (adriamycin, cyclophosphomide, vincristine and prednisolone) were given before delivery. The patient has been in complete remission for three years and her baby has been in normal development. Our case supports previous reports that chemotherapy in the third trimester may be given safely on NHL patients.

Key words : **non-Hodgkin's lymphoma, pregnancy, chemotherapy**

The occurrence of non-Hodgkin's lymphoma in women in pregnancy is a very rare event (1), as the peak incidence of non-Hodgkin's lymphoma (NHL) appears in the 70-year group by mortality rate analysis.

Chemotherapy or radiotherapy for pregnant cancer patients always raises problematic issues, and doctor and patient are faced with the dilemma of cancer treatment and the fate of a fetus. No absolute solution has been proposed for pregnant women with cancer. Needless to say, doctors have to decide on a case by case basis, balancing the benefits of treatment against the side-effects of chemotherapy. Due to the fact that some kinds of cancers have been successfully treated and cured with chemotherapy as well as surgery and radiotherapy, recommendation of therapeutic abortion for some patients must be discouraged.

Systematic intensive chemotherapy of NHL has induced high complete remission rate and long-term disease-free survival on half of B-cell type NHL patients, which has made it possible to cure the disease recently (2). We treated a pregnant NHL patient during the third trimester with chemotherapy and she delivered a normal baby after 3 courses of CHOP regimen (adriamycin, cyclophosphamide, vincristine and prednisolone). Ward *et al.* have reviewed the world-wide reports concerning NHL in pregnancy and summarized comments of therapeutic strategy with 77 references (1). They mentioned that 42 cases out of 75 had been reported with sufficient data of maternal and fetal outcome. However, successful cases of chemotherapy on a mother and normal delivery were rare. We, herein, would like to report a case to give suggestions for

* To whom correspondence should be addressed.

doctors and patients when they meet similar cases.

Case Report

A 29 year-old, gravida 1, para 0, patient was found to have lymphadenopathy at right cervical and right inguinal regions by an obstetrician. A biopsy of a lymph node at right inguinal region was performed and NHL was diagnosed histologically. Then, this patient was referred to our hospital at the 27th week of gestation on March 23, 1987. Another lymph node biopsy at right cervical region confirmed the diagnosis of NHL, diffuse, large cell type with B-cell phenotype. Physical examination revealed a lymph node of 2×2 cm at right cervical region and a lymph node of 1×4 cm at right inguinal region. There was no hepatosplenomegaly. Because the patient was pregnant, staging procedures of gallium scintigraphy, computed tomography, lymphangiography and bone marrow examination were omitted except ultrasound examination of the abdomen. According to the above findings, the stage of disease was defined as III-A. She was in the 7th month of pregnancy and her fetus was appropriate for gestational age. The problems of NHL treatment on a pregnant patient were explained to her husband and their parents, although a diagnosis of NHL was not informed to the patient by request of her family. Ethical problem as well as treatment method was discussed at the tumor conference in our hospital.

CHOP regimen (adriamycin 60 mg, cyclophosphamide 1,000 mg, vincristine 2 mg, on day one and prednisolone 60 mg for 5 days) was administered on March 31, 1987. She entered complete remission on day 18. The third course was given on day 40 before the expected date of confinement. A baby weighing 2,860 g was born via normal spontaneous vaginal delivery and the Apgar score was 9 at one min. The baby appeared to be normal on physical examination. The only abnormal finding was a small placenta with 350 g. Lactation was inhibited by hormonal therapy. The patient was subsequently treated with series of chemotherapy drugs, such as adriamycin, cyclophosphamide, vincristine, methotrexate, vindesine, etoposide, bleomycin and procarbazine in various combination for one year until September 14, 1988. The complete reevaluation of the disease status has been done every half a year and she has been in continuous complete remission for three years (as of September 1, 1990). Her baby has been in completely normal development and no physical or mental abnormalities are observed.

Discussion

Cancer chemotherapy using multiple drugs in high dosage may cause some morbidity and mortality even in otherwise normal patients. Chemotherapy should be performed on pregnant patients with great caution. Our patient has been treated successfully for NHL and delivery was completed without complications.

The complex nature of cancer treatment during pregnancy is widely recognized. Treatment management of mother and fetus is complicated by special cosiderations that vary from patient to patient. Psycological factors must be considered as well as physical problems. Charting the best possible course of treatment for each case through the field of clinical, social and psychological issues is a serious challenge for doctors.

The thema of pregnancy and lymphoma has been issued in several English language publications. Successful delivery of NHL patient with systematic chemotherapy was first reported in 1977 by Ortega (3). Since then, 6 cases of successful chemotherapy with full description about mother and child have been reported (4–8). The exact incidence of NHL in pregnant women is not known probably because unsuccessful cases were not reported in the medical literature. According to the summary review by Ward *et al.* (1), chemotherapy given during the second and third trimesters has had good results. They proposed management guidelines for pregnant NHL patients in their paper. For the patients

with unfavorable histology in late second or third trimester, they recommend consideration of early delivery, or combination chemotherapy when early delivery is deemed unsafe. If a patient may be observed to postpartum, early delivery should be considered. Teratogenecity of cancer drugs is well known, when drugs are given during the first trimester (9, 10). A therapeutic abortion should be recommended for patients with aggressive histology and advanced disease in the first trimester (1). On the other hand, incidence of teratogenecity and malignancy in the offspring of cancer positive mothers treated with chemotherapy during pregnancy is not significant in comparison with the general population according to statistical reports (11, 12). Chemotherapy should be started promptly, as delay in beginning therapy on NHL patients will result in poor prognosis.

Our patient is one of the encouraging cases, who benefit from cancer chemotherapy. Because B-cell type NHL is one of the malignant diseases that can be completely cured with chemotherapy, efforts to save both patient and fetus should be attempted.

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