



Choriocarcinoma Treated by Primary Systemic Chemotherapy and its Prevention after Hydatidiform Mole, with Methotrexate

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Abstract

Case reports of 1) Complete remission of choriocarcinoma treated with primary systemic MTX chemotherapy achieving normal pregnancy, 2) MTX chemotherapy of choriocarcinoma brain metastases with long favorable outcome, 3) destructive mole, 4) Choriocarcinoma prevention with MTX chemotherapy after complete hydatidiform mole, and promotion of complete remission of common malignant neoplasia with various anticancer medicine without surgery.

Keywords: Choriocarcinoma; Common malignancy; MTX; Primary chemotherapy; Complete remission; Brain metastasis; Prevention

Introduction

Details of chemotherapy as well as prevention of choriocarcinoma with methotrexate (MTX) were intended in the present paper keeping patients' privacy, though the history description is common in case reports.

Choriocarcinoma was treated by hysterectomy followed by chemotherapy with choriocarcinoma insensitive anti-cancer agents in old time in Japan, where lung metastasis appeared 1-1.5 years after surgery, then about 3 cases died by brain metastases every year in each university hospitals in Japan. Therefore, choriocarcinoma was the most malignant neoplasia with hematological dissemination in female patient in Japan in old time before 1960.

It was exciting to cure the patient with primary systemic MTX therapy from the death due to extensive metastatic choriocarcinoma after the introduction of primary chemotherapy in Kyushu university without surgery, in 1960's, which resulted the complete remission of choriocarcinoma, including disappearance of metastases even in the brain and also the disappearance of primary uterine focus, associated with complete loss of tumor marker, human chorionic gonadotropine (hCG) in the serum and urine, and surprisingly achieved normal pregnancy, namely it was literally complete remission in Kyushu university [1]. It might be the first experience of complete remission of solid malignant neoplasia achieved with anticancer agent, that would be the pioneer of possible complete treatment of common cancer with anti-cancer agents, which will be the goal of anticancer drug therapy studied at present, where the surgery or radiation therapy of cancer will be avoided, making it unnecessary to receive cancer check-up, economizing the cost of early cancer detection, because even advanced cancer is treated with systemic anticancer agent, and remove the fear to afraid cancer, namely, cancer will be one of common diseases treated by taking medicine.

Methods and Results

Complete remission of choriocarcinoma

The choriocarcinoma was confirmed by primary uterine focus sample, where hCG titer was high and distant metastatic foci appear firstly and mainly in lungs. Since we recognized choriocarcinoma as a systemic disease, primary MTX chemotherapy was the initial challenge to choriocarcinoma, avoiding any local treatments including hysterectomy or radiation. The treatment was intravenous drip injection of MTX for 0.4-0.5 mg per kilogram per day combined with Actinomycin-D for 0.5 mg per day in 3-4 days per week was common choriocarcinoma chemotherapy. Similar MTX courses were repeated every week until disappearances of tumor and hCG.

Pulsed Doppler flow wave was studied at the tumor arteries, where high tumor sensitivity was determined when the resistance index and pulsatility index of tumor vessel flow were promptly

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high immediately after the initiation of chemotherapy. Etoposide, cyclophosphamide and vincristine are combined with MTX, when the tumor was resistant to MTX.

Intensive chemotherapy was repeated for 3-4 days and repeated next week. High dose MTX chemotherapy was done with 20 mg per day injection for 3 days and repeated next week for the brain metastasis. Leucovorin was injected for 6 mg per day 2 hours after the cessation of MTX injection with the purpose to prevent leucopenia. The leucocyte count and liver function were monitored during the chemotherapy.

Our experiences suggest the importance of tumor factor, which was human chorionic gonadotropin (hCG), of which disappearance indicated complete removal of choriocarcinoma by the MTX therapy, not only metastasis but also uterine primary focus. The principle will be adopted in modern anti-cancer agents, thus, present report is not archaic but provokes new problem in cancer therapy.

Prophylaxis of choriocarcinoma

Also our prophylaxis of choriocarcinoma suggests possible prevention of cancer in the future, namely, 107 cases after hydatidiform

mole developed no choriocarcinoma after MTX therapy with 10 mg per day for 7 days in negative pregnancy test (negative urinary hCG) cases, and MTX was administered until negative pregnancy test in 2 cases of positive pregnancy test, while 81 cases who did not receive MTX after the mole developed 6 cases (7 %) of choriocarcinoma including fatal cases, in Kyushu university [2]. There was significant difference in the number of choriocarcinoma between two groups, resulting dramatic reduction of choriocarcinoma at present in Japan [3]. Therefore, the outcome of present vaccination to prevent uterine cervical cancer is very interesting.

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