was administered intramuscularly at a dose of 70-120 mg/day, at 9 a.m. every day for 5 days. CF was administered intramuscularly at a dose of 7-12 mg/day given 12 hourse following each dose of MTX.

In the two patients who were treated with a 70 mg/day for each dose, serial serum MTX levels were measured by the bioassay cup method. They described a downward curve from  $1-2 \times 10^{-6}$ M (at 6 hourse following each dose) to undetectable level (less than  $2 \times 10^{-6}$ M) at 24 hours following each dose every day.

Toxicities and clinical views were compared between the MTX-CF therapy group (14 cases) and the conventional MTX therapy group (18 cases treated with 15 mg/day for 7 days as a course). In the MTX-CF therapy group, the frequency and the severity of the toxicity monitored by peripheral blood counts, serum glutamic oxaloacetic transaminase and gastrointestinal disturbance, were minimal. Urinary HCG descending pattern was approximately similar in the both groups. There was no difference between the two groups on the prognosis (the cure rate: 100%).

## 42. An Approach to the Higher Remission Rate of Choriocarcinoma

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A study was done on the records of 19 dead cases among 45 choriocarcinoma patients treated during a period of 4 years from 1972 to 1975, and the following problems were pointed out. (1) choice of chemotherapeutic agents and clinical protocol of injection (2) treatment of the chemotherapy-resistant lung metastasis (3) methods to cope with brain metastasis (4) prevention of recurrence.

These problems were closely examined and improved therapeutic measures were tried on 24 choriocarcinoma patients treated between 1976 and 1979. MTX-ACTD combination chemotherapy was carried out in almost all cases from the beginning. The suspended period of the chemotherapy was shortened as much as possible and never prolonged for surgical reasons. Surgical removal of the chemo-

therapy-resistant lung metasis was performed positively. Early diagnosis of the brain metastasis was a very important factor that affected the prognosis and removal through craniotomy was carried out in the cases with high intracranial pressure. Remission criteria was followed very striktly. Immunotherapy using BCG was adopted in several cases.

As a result of the intensive chemotherapy, surgery and other therapeutic measures, the rather high mortality rate of 40 per cent (1972-1975) fell down to 17 per cent (1976-1979); the drop in mortality rate was particularly outstanding in the group with poor prognosis in which it decreased from 93 per cent (1972-1975) to 40 per cent (1976-1979). To gain a higher remission rate of choriocarcinoma, various problems including the etiology and immunology, a new method to detect the localization of small metastasis and a new criteria for remission must be taken into consideration.

## 43. Experimental Chemotherapy with Transplanted Choriocarcinoma in Nude Mice

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The progress of chemotherapy has improved the prognosis of Trophoblastic disease. But the useful chemotherapy for some patients with the resistance against the MAC therapy has not be discovered yet. The response to chemotherapy was studied with our transplanted choriocarcinoma (CC-HM-1) compareing with another choriocarcinoma (CC-1-JCK) that has been already established in Center Institute of Experimental Animals.

CC-HM-1 was transplanted from the pulmonary metastasis with the MAC therapy resistance. This yellowish and solid tumor had rather slow growth and rather a few HCG production. While CC-1-JCK with quick growth was black red and including bloody fluid and necrosis. CC-HM-1 had invasions into muscles and a pulmonary metastasis.