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In 212 patients with stage III or IV ovarian cancer treated in our department, the operative methods and the prognosis were evaluated. The group of patients treated with reduction surgery at the initial laparotomy was more favorable than that treated with only staging laparotomy in the prognosis.

The result was more significant in the group of patients treated with reduction surgery followed by chemotherapy with new chemotherapeutic agents. The prognosis was most favorable in the group of patients that underwent total abdominal hysterectomy and bilateral salpingo-oophorectomy and omentectomy among the group of patients treated with reduction surgery, and side effects of this procedure was tolerable. In general, it was suggested that maximal tumor reduction at the initial laparotomy was recommended to improve the prognosis, although some patients had a favorable clinical outcome in the group of patients treated with only staging laparotomy.

#### **421. Extensive Surgery for Advanced Ovarian Cancer (Modified Posterior Pelvic Exenteration and Total Colectomy)**

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We performed modified posterior pelvic exenteration with anal preservation on 22 of 25 patients with Stage III and IV advanced ovarian cancer, and total colectomy and ileorectal anastomosis on the remaining 3. Depending on cases, these surgical procedures were complemented by radical removal of para-aortic lymph nodes with the hypogastric and pelvic nerves preserved. Furthermore, F-CAP therapy was added using aortic cannulation. The patients aged from 30 to 66 years, and the intraoperative bleeding volume was in the 400~3,000 ml range (average: 1,330 ml). As a complication, anastomosis leakage was observed in one patient, and we performed colostomy for this patient. Except for this complication, there was no difficulty of defecation or dysuria. Thus all the patients were discharged 18 to 40 days postoperatively (an average of 33 days) and were able to get back to their everyday life. Since leaving the hospital, 4 years 6 months have passed for one of the patients, 3 years 7 months for another, 2 years for 5,

and 1 year for 3. We reached the conclusion that complete remission can be achieved even in cases in which wide-spread dissemination is observed in the abdominal cavity if we resort to function-preserved reduction surgery in combination with chemotherapy. It is necessary to emphasize the importance of the first surgical intervention.

#### **422. Adverse Effects of RF-hyperthermia in Ovarian Cancer**

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Adverse effects of RF hyperthermia were clinically and fundamentally examined in abnormal cancer for its application to ovarian cancer. Number of patients in the present study is 224 (including 15 ovarian cancer). RF Machine HEH500 (OMRON) was used. Maximum temperatures of some organs during RF hyperthermia are as follows: Liver 41.5°C, Bladder 43.8°C, Rectum 42.0°C, Uterus 39.0°C, Tumor in cul-de-sac 39.5°C. Those normal tissues were below 39.0°C except subcutaneous tissue. Adipose necrosis occurred in 9 of 224 patients. That is due to the abnormal high temperature over 70°C in subcutaneous fat which was demonstrated in experiments using minipigs. In addition, slight skin burns frequently occurred. RF hyperthermia induced a uterine cervical cancer patients with dysuria who was treated with a radical hysterectomy. The dysuria was due to obstruction of bilateral ureters. Corticosteroid potently rescues. RF hyperthermia was a possible cause of death in a patient with massive ascites. Experiments using nude mice bearing ascitic type of dysgerminoma demonstrated shortening survival periods by systemic hyperthermia at 41.5°C. Liver function was not affected by RF hyperthermia. In conclusion, RF hyperthermia is a safe therapy to manage ovarian cancer except patients with massive ascites and obesity.

#### **423. Laparoscopy for Evaluation of Response to Chemotherapy in Ovarian Cancer**

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