

Preliminary Evaluation on the Modified Pelvic Vascular Bed Isolation Chemotherapy for the Treatment of Patients with Advanced Cervical Carcinoma

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Abstract Objectives To evaluate preliminarily on the modified pelvic vascular bed isolation chemotherapy (PVBICT) for the treatment of patients with advanced cervical carcinoma. **Methods** Since 1981 to 1990, the modified technique of PVBICT recommended by Hiraoka et al (Jap gynecologists) had been used for 40 cases of advanced cervical carcinoma. The cancerocidal drugs used were cDDP, 5-FU, CTX (1st Line drugs), either as single agents or as combination, all cases were followed up for 10 years(a) to 20 years(a). **Results** In follow-up these cases, the history, physical examinations including whole body and local(bimanually), B mode, C mode, or laboratory examinations, such as blood, urine, liver and kidney function as well as tumor markers (CA125, CEA, etc) before and after therapy. There were only 8 cases died after 3 years post-therapy by carcinoma recurrence. All cases had transient reaction of hematology, and till present 32 cases lived without carcinoma for at least ≥ 10 years. **Conclusions** The modified PVBICT is evaluated to provide based upon its post-therapeutic effects and safeness, and may be spreaded for applicaion.

Key Words Modified pelvic vascular bed isolation chemotherapy; advanced cervical carcinoma; Preliminary evaluation

From 1981 to 1990, 40 cases of advanced cervical cancers were treated with modified Hiraoka's technique called "pelvic vascular bed isolation chemotherapy" (PVBICT) with favorable proximate results except 8 died from liver lesion. In this paper, a preliminary evaluation of PVBICT is proved upon post-treatment macroscopical, cytological, pathohistological as well as ultramicroscopical examinations.

Hiraoka, et al (1973;1975)^[1,2] described a new type of surgery called PVBICT. The chief aim of their technique was said to prevent intra-arterially instilled chemotherapy drugs from flowing out of the pelvis. According to the facts, the visual, histological and cytological evidences of local malignancy could be eradicated by simple PVBICT. They believed that PVBICT should be commonly used for managing advanced radio-resistant pelvic cancer as long as tumor was strictly confined to the pelvic cavity. Hiraoka and Chao (1976)^[3] also recognized the fact that isolation surgery occluded all the related pelvic blood vessels, and treated four cases of severe genital hemorrhage due to advanced cervical cancer with PVBICT to obtain good results. However, in the practice of Hiraoka, et al, they still commented on the inability to predict the ultimate fate of the patients treated with PVBICT either the cancerocidal or the hemostatic effect. For these

reasons, we received and remodeled modified Hiraoka's technique and used it in management of 32 cases with advanced cervical cancers in order to recognize and to evaluate preliminarily its effects.

MATERIALS AND METHODS

From 1981 to 1990, 32 cses of advanced squamous cell carcinoma of uterine cervix were treated with modified Hiroka's technique. The cancerocidal drugs used were cDDP, MMC, 5Fu and Endoxan (1st line drugs) or Taxol, VP-16 (2nd line drugs), separately or in combination, Their dosage and the surgical procedure of PVBICT had already been described^[4].

The total dose of cancerocidal drugs used were: cDDP 140mg~180mg; MMC 89mg~135mg; 5-Fu 200mg; XT 6g. Their dosages were divided as: 1 st day -1/2; 2nd day -1/4; 3nd day -1/4. Taxol 135mg/m²~175mg/m², VP-16 50mg/d~100mg/d. The surgical procedures were presented briefly as follws: ①The necessary vaginal procedures (vaginal blood supply block)^[4]; ②Abdominal incision (Pfannenstiel's or iginal type); ③Exposure of the extraperitoneal space to look for the round ligaments; ④Further exposure of the extraperitoneal space by blunt dissection; ⑤Dissection and removal of the

pelvic lymph nodi starting from iliac to obturator groups; ⑥ Dissection and ligation of the trunk and branches of internal iliac arteries and veins with exception of the uterine arteries; ⑦ Catheterization of internal iliac arteries for injecting the cancerocidal drugs; ⑧ Place the extraperitoneal drainages and the intra-arterial catheters in proper position (same procedures in both sides); ⑨ Suture of the extraperitoneal abdominal wall layer to layer.

RESULTS

All of the 40 cases treated were observed with macroscopical, cytological, pathohistological and ultramicroscopical examinations since 24 hours post-PVBICT. Among these, 32 cases had favorable proximate effects except 8 cases died from liver lesion.

The post-PVBICT responses by the above mentioned examinations were briefly presented as follows:

Macroscopical examination: ① Cauliflower-like appearance of local lesion before chemotherapy; ② The cervical surface getting smooth since 24 hours after chemotherapy with most significant changes between 10–20 days post-operatively.

Cytological examination: Retrograde degeneration of cancer cells with differentiation tending to various layers of normal cells noticed.

Pathohistological examination: Decreasing density and mitosis of cancer cells with degeneration, tissue differentiation tendency and parenchymal reaction found.

Ultramicroscopical examination: Disproportion of desmosome, increasing crease of nuclear membrane, sidemoving of nucleolus, presence of perichromatin granules in nucleus and nuclear body.

Further investigation and more practice should be done in order to plan the appropriate selection, dosage and chemotherapeutic course of the cancerocidal drugs for better remote results.

PRELIMINARY CONCLUSIONS

Early diagnosis and early treatment are still the principle of management of patient with cervical cancer. If the general condition of the patient is good, radical surgery should be done for those early cases, but in case of advanced cervical cancer, it is better to give radiation and /or chemotherapy in combination with surgical treatment. PVBICT is indicated especially for advanced cervical cancer resistant to radiation and /or with uncontrolled hemorrhage.

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