A case of prostate cancer with a large abdominal mass effectively treated with a high dose of diethylstilbestrol-diphosphate

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A CASE OF PROSTATE CANCER WITH A LARGE ABDOMINAL MASS EFFECTIVELY TREATED WITH A HIGH DOSE OF DIETHYLSILBESTROL-DIPHOSPHATE

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A case is reported about a 75-year-old man with a large abdominal lymph node metastasis caused by prostate cancer effectively treated by a high dose of diethylstilbestrol-diphosphate. The usefulness of diethylstilbestrol-diphosphate for prostate cancer patients with lymph node metastasis is emphasized.


Key words: Prostate cancer, Abdominal mass, Diethylstilbestrol-diphosphate

INTRODUCTION
Although staging pelvic lymphadenectomy show that small lymph node metastases of prostate cancer is very common, large pelvic lymph node metastases is very rare. Herein, we report a case of prostate cancer with a large abdominal mass.

CASE REPORT
A 75-year-old man entered the hospital on June 10, 1991, with urinary retention and one week's history of dysuria. The patient was 158 cm tall and weighed 59 kg. Rectal examination revealed that he had an enlarged prostate without nodularity. A fist size unmovable hard mass was palpable in the left lower abdomen. Urethrography showed that the prostatic urethra was extremely elongated and that the bladder was shifted extremely upward to the right. Drip infusion pyelography (DIP) revealed that the left lower ureter was displaced medially and that the bladder was pressed towards the right side (Fig. 1, left). The computerized tomographic (CT) scan disclosed a large mass with a high density in the left pelvis and small masses with a high density in the right pelvis (Fig. 2, left). The bone scan revealed no metastasis, although an abnormal accumulation was observed in the ninth thoracic vertebra. The serum prostatic acid phosphatase (PAP) level was 32 ng/ml and the serum prostatic specific antigen (PSA) level was 285 ng/ml. The alkaline phosphatase level was normal. A transperineal needle biopsy of the prostate confirmed the diagnosis of poorly differentiated adenocarcinoma (Fig. 3). The patient was given a high dose of diethylstilbestrol-diphosphate for 28 days (total 28 gm). Castration was not performed. Although abdominal masses had become markedly smaller, they could still be observed by

Fig. 1. DIP (left) showed that the lower left ureter was shifted medially. A slight hydronephrosis was observed in the left kidney. DIP (right), with which the patient was examined, one year after initial treatment, showed normal left ureter and bladder.
Fig. 2. CT scan (left) revealed a large high density mass on the left and small masses on the right were observed in the pelvis CT scan, one and half year after treatment (right). Note markedly diminished left pelvic lymph node. Right pelvic masses were completely diminished.

Fig. 3. Histological section of prostate needle biopsy demonstrated poorly differentiated adenocarcinoma. Hematoxylin & Eosin stain; ×100

CT scan. Therefore, a laparotomy was performed. The left mass was tightly clumped against surrounding tissue. Lymph node resection could not be performed. A portion of the lymph nodes was resected (Fig. 4). Diethylstilbestrol-diphosphate was administered at the dose of 12 gm for 14 days. The tumor marker (PAP and PSA) became normal on August 19. Because the residual urinary volume was still 600 ml, the patient was taught how to install the catheter by himself. Estramustine phosphate (560 mg/day) was followed after diethylstilbestrol-diphosphate treatment. The patient was discharged on September 1.

The patient was well on the follow-up examination, one year and 10 months later. The DIP showed a normal bladder and a normal left ureter (Fig. 1. right). CT scan showed that the abdominal masses had become extremely small (Fig. 2. right). The residual urinary volume became 60 ml.

DISCUSSION

Previously estrogen treatment was reported to be effective in treating prostate cancer, but the survival rate was lowered by cardiovascular diseases\(^1\). Since then, in Western countries, estrogen has not been used so frequently for prostate cancer. By contrast, in Japan a high dose of diethylstilbestrol-diphosphate has been used in cases of advanced prostate cancer with good results\(^2,3\). There has been less occurrence of cardiovascular diseases in Japan than in the West\(^2,3\). In addition, previously we showed that diethylstilbestrol had a dose-dependent effectiveness no Noble rat prostatic tumor\(^4\). This led us to believe that diethylstilbestrol has a direct cytotoxic effect only on prostatic tumor cells. Based
on these findings, we used a large dose of diethylstilbestrol-diphosphate on our patient, and obtained a very good response.

Nakagawa et al. and Masuda et al. reported 17 cases of prostatic carcinoma with large abdominal lymph node metastasis. We collected another three cases including ours, making 21 cases in total. An interesting point was that large lymph node metastases were markedly shrunken through estrogen treatment and that some lymph nodes had almost completely diminished. Although it is important to control both lymph node and bone metastasis, the frequency of pelvic lymph node metastasis was obscure until staging pelvic lymphadenectomy was begun. The staging operation detected a high incidence of pelvic lymph node metastasis in the early stages of prostate cancer. Because, as we reported here, diethylstilbestrol-diphosphate was markedly effective in treating large lymph node metastasis, smaller lymph nodes should be more responsive to estrogen. High dose diethylstilbestrol-diphosphate treatment would assure a better prognosis than androgen deprivation therapy in the early stages of prostate cancer, if used suitably (i.e. for a short period) in combination with total prostatectomy or radiation therapy.

REFERENCES


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