Endometrial Cancer of the Uterus in a Patient with Spinal Cord Injury

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YAMADA, T., KASAMATSU, H. and MORI, H. *Endometrial Cancer of the Uterus in a Patient with Spinal Cord Injury.* Tohoku J. Exp. Med., 2003, **200** (1), 55–58 — Spinal cord injury occurs predominantly in males, and endometrial cancer in a patient with spinal cord injury is very rare. A 71-year-old woman, gravida 7, para 4, who had incomplete quadriplegia due to a spinal cord injury, was admitted with a complaint of genital bleeding. Biopsies of the cervix and the endometrium revealed endometrioid adenocarcinoma. Total abdominal hysterectomy was performed under general anesthesia. Pathohistological analysis revealed endometrial adenocarcinoma (G1) with squamous metaplasia and International Federation of Gynecology and Obstetrics (FIGO) surgical stage 2b. Local recurrence was not obvious after the surgery. However, lung metastasis appeared on postoperative day 225, and she died from dyspnea on day 277. Uterine cancer screening is more necessary in long-term bedridden women. ——— spinal cord injury; endometrial cancer; quadriplegia

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We report a case of endometrial cancer in a patient with spinal cord injury. There has been no report of gynecologic cancer in patients with spinal cord injury, because the majority of spinal cord injured patients have been male. A literature search in Medline revealed that there is no previous report of uterine cancer in a spinal cord injured patient.

CASE REPORT

A 71-year-old woman, gravida 7, para 4, was admitted with a complaint of prolonged

genital bleeding. Menopause had occurred at the age of 43 years. Her past medical history showed that abdominal right oophorosalphingectomy and left tubal ligation were performed for a right ovarian cyst at the age of 36 years. She had never been received the examination of uterine cancer. Five years ago, her cervical bone was fractured at the level of C1 and C2 as a result of a traffic accident (Fig. 1). She was in a coma for six months and under the respiratory control with tracheotomy. She regained consciousness and spontaneous respiration.

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Fig. 1. x-ray photograph of the spine showing cervical bone fracture (arrow).

However, incomplete quadriplegia remained and she was bedridden. She could speak with a low voice, and chew and swallow very slowly. She had chronic abdominal distension and constipation, but urination and defecation to a sanitary napkin were possible.

At the time of the present admission, her height was 152 cm and her weight was 33 kg. Pelvic examination showed that the abdominal wall was very thin and constipation was obvious. The uterine cervix was normal macroscopically, but slight bleeding from the cervical os was seen. Echography showed that the uterus was not enlarged and there was no endometrial thickening. The cytology was suspicious, and biopsies of the cervix and the endometrium revealed endometrioid adenocarcinoma. The serum tumor markers were CA 125, 36.3 U/ml (normal range, <35 U/ml); CA 19-9, 114.9 U/ml (<37 U/ml); and SCC, 2.3 ng/ml (<1.5 ng/ml). The patient could not perform neck anteflexion and retroflexion because of the spine fracture, but endotracheal intubation was possible. Therefore, total abdominal hysterectomy and left oophorosalingectomy

Fig. 2. The cervix is covered with normal squamous cells (black arrows), but is invaded by cancer cells (white arrows) (H & E, $\times 20$).

were performed under general anesthesia as a minimally invasive surgery. Upon laparotomy, there was no palpable pelvic lymph node swelling. There was no postoperative pain. Macroscopically, the uterus was not enlarged and there was no endometrial thickening. Pathohistological analysis of the excised uterus revealed endometrial adenocarcinoma (G1) with squamous metaplasia. The lesions in the uterine body had invaded deep into the muscle layer and nearly to the serosa. The cervix was covered with normal squamous cells, but was invaded by cancer cells (Fig. 2). These findings indicated International Federation of Gynecology and Obstetrics (FIGO) surgical stage 2b. The intraoperative and postoperative clinical courses were good, and the serum tumor markers returned to the normal range.

Local recurrence was not obvious after the surgery. However, she developed a high fever and coughing on postoperative day 225, and chest x-ray showed multiple lesions in the bilateral lung. The lung metastasis grew aggressively, and she died from dyspnea on postoperative day 277. Anti-cancer drugs were not administered under her own and her families' request.

DISCUSSION

Spinal cord injury afflicts 15 000 persons/year in the United States (Bedbrook and Sedgley 1980). Sixty percent of spinal cord injuries occur between the ages of 16 and 30 years (Gutierrez et al. 1993). Improvements in the care of these patients have led to an increased mean life span after the injury. Integral to the successful treatment of patients with spinal cord injury is preservation of renal function.

However, the incidence of bladder cancer among spinal cord injured patients is 16 to 28 times higher than that in the general population (Navon et al. 1997). Indwelling catheterization for longer than 10 years and chronic or recurrent infection were considered to be the predis-

posing factors. In an attempt to diagnose these tumors earlier and to improve the ultimate outcome, urine cytology, cystoscopy, and random bladder biopsies have been advocated in patients with spinal cord injury (Navon et al. 1997).

The colorectal cancer that develops in spinal cord injured patients is biologically similar to the colorectal cancer that develops in the neurally intact population (Stratton et al. 1996). However, the initial signs and symptoms in spinal cord injured patients are often overlooked, and these lesions typically present at an advanced stage and they have a dismal prognosis. Stratton et al. (1996) reported that spinal cord injured patients tolerate surgery well. Postoperative chemotherapy or radiation therapy should not be withheld from these patients if otherwise indicated. However, these patients are prone to certain complications, and measures aimed at preventing these complications are warranted.

The endometrial cancer in the current patient was in the advanced stage when she consulted a gynecologist. Total hysterectomy was considered to be a minimally invasive treatment. However, she died 9 months after the surgery, which was earlier than expected, from metastatic lung cancer. For endometrial cancer in the advanced stage like in the current case, adequate surgery and postoperative chemotherapy or radiation are considered to have a therapeutic effect.

The majority of spinal cord injured patients with bladder or colorectal cancer are male, because the male: female ratio of patients with spinal cord injuries is 85:15 (Gutierrez et al. 1993). There has been no report of gynecologic cancer in patients with spinal cord injury. There may be no relationship between the occurrence of endometrial cancer and spinal cord injury. However, women with physical disabilities are at a higher risk for delayed diagnosis of cancer, primarily for reasons of environmental, attitudinal, and information bar-

riers (Nosek and Howland 1997). Uterine cancer screening must be advocated in long-term bedridden women.

References

- Bedbrook, G.M. & Sedgley, G.I. (1980) The management of spinal injuries -past and present. *Int. Rehabil. Med.*, **2**, 45-61.
- Gutierrez, P.A., Young, R.R. & Vulpe, M. (1993) Spinal cord injury. An Overview. *Urol. Clin. North Am.*, **20**, 373-382.
- Navon, J.D., Soliman, H., Khonsari, F. & Ahlering, T. (1997) Screening cystoscopy and survival of spinal cord injured patients with squamous cell cancer of the bladder. *J. Urol.*, **157**, 2109-2111.
- Nosek, M.A. & Howland, C.A. (1997) Breast and cervical cancer screening among women with physical disabilities. *Arch. Phys. Med. Rehabil.*, **78** (12 Suppl. 5), S39-S44.
- Stratton, M.D., McKirgan, L.W., Wade, T.P., Vernava, A.M., Virgo, K.S., Johnson, F.E. & Longo, W.E. (1996) Colorectal cancer in patients with previous spinal cord injury. *Dis. Colon Rectum*, **39**, 965-968.
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