Primary Squamous Cell Carcinoma of the Ovary Associated with Primary Adenocarcinoma of the Fallopian Tube

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Abstract: Primary squamous cell carcinoma of the ovary is one of the rarest of all ovarian malignancies, and most cases originate in a cystic teratoma or a Brenner tumor. We are aware of only 8 reported cases of primary squamous cell carcinoma of the ovary without the above associations. We present what appears to be the first reported case of a primary squamous cell carcinoma of the ovary to be associated with a primary adenocarcinoma of the fallopian tube. The patient was a 63-year-old woman and had an operation on September 27, 1990. She remained well with no sign of recurrence at 4th year.

Key words: squamous cell carcinoma, ovarian tumor, tumor of the fallopian tube, collision cancer

Case Report

A 63-year-old woman (gravida 1, para 1) was referred to the Yamanashi Medical University Hospital with an abdominal mass and low grade fever. Gynecological examinations revealed a right ovarian tumor. A pelvic sonogram showed a solid tumor in the pelvic cavity. Endometrial and vaginal cytology were negative. An explorative laparotomy on September 27, 1990, revealed a right adnexal tumor that had penetrated the fallopian tube and was densely adherent to the ileocecal portion of the intestine. The uterus and left adnexa appeared normal. A small amount of ascites was present. On gross inspection, no metastatic disease was present in any other intra-abdominal organs. The serum level of squamous cell carcinoma antigen (SCC), a useful marker of squamous cell carcinoma, was 80 ng/ml. We performed a total hysterectomy, bilateral salpingo-oophorectomy, omentectomy, ileocecal resection with ileo-ascending colostomizing according to end-to-end fashion, and pelvic lymphadenectomy below the common iliac artery. Cytological examination of the ascites obtained at surgery revealed a few squamous carcinoma cells. Postoperatively, three courses of chemotherapy consisting of cisplatin (50 mg/m²), adriamycin (40 mg/m²) and cyclophosphamide (400 mg/m²) were administered. She remained well with no sign of recurrence at 4th year.

Pathological Findings

The tumor, which measured 10×9×9 cm, originated in the right ovary. Its surface was smooth but a portion had ruptured revealing papillary growth from the capsule (Fig. 1). The cut surface was soft and creamy with focal necrosis and some focal areas of hemorrhage. The tumor strongly adhered to the right
Fig. 1. The tumor originated in the right ovary (10×9×9 cm). Its surface was smooth but a portion had ruptured revealing papillary growth of the capsule.

Fig. 2. Squamous cell carcinoma of the ovary. Cells were polygonal with pleomorphic nuclei and abundant cytoplasm (hematoxylin-eosin, × 100).
Squamous cell carcinoma of the ovary

Fig. 3. Well-differentiated papillary adenocarcinoma arising from the tubal epithelium (hematoxylin-eosin, × 100).

This appears to be the first reported case of a simultaneously occurring squamous cell carcinoma of the ovary and a well-differentiated papillary adenocarcinoma of the fallopian tube which were detected at the initial laparotomy.

Warren and Gates established three criteria for diagnosing multiple primary malignancies: (1) each tumor presents a definite picture of malignancy, (2) each tumor is distinct, and (3) the possibility of one tumor being a metastasis of the other is excluded. All three criteria were met to this case.

While primary ovarian squamous cell carcinoma has been reported previously, it is very rare. The most common explanation for such an ovarian carcinoma is that it had metastasized from a distant site such as the uterine cervix. Webb et al., in a series of 375 tumors metastasized to the ovary, found that only 2.5% were of the squamous cell type. Most nonmetastatic squamous cell carcinomas of the ovary arise from teratomas or Brenner
tumors. To our knowledge, only 8 cases of primary squamous cell carcinoma of the ovary have been reported previously\textsuperscript{2,3,9}, and three of these were associated with carcinoma in situ of the uterine cervix\textsuperscript{2-4}. Although there is no clear explanation for this association, it raises the possibility of microinvasion from the cervix.

Most malignancies that arise from ovarian endometriosis are endometrioid and clear cell, but at least four cases of squamous cell carcinoma have been reported\textsuperscript{5-8}. Our patient had no evidence of endometriosis.

Primary carcinoma of the fallopian tube is one of the rarest genital tract carcinomas, and is classically found at laparotomy at an advanced stage with metastases to such sites as the uterus and ovaries. In our patient, it was easy to diagnose a simultaneous carcinoma of the ovary and fallopian tube, because the carcinoma of the fallopian tube presented as an early lesion, and the coexisting ovarian carcinoma exhibited differing histological features.

Primary squamous cell carcinomas of the ovary were reported to be highly aggressive, with death usually occurring within a few months of the first symptoms, regardless of the choice of surgical procedure and chemotherapy\textsuperscript{9}. However, this case indicates that complete local excision with adequate postoperative chemotherapy is an effective treatment. Measurement of the serum SCC may be very useful in diagnosing recurrence of this carcinoma.

References