Case Report
Sarcomatoid carcinoma in the pelvic cavity

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Abstract: Sarcomatoid carcinoma in the pelvic cavity is very rare. A 58-year-old Japanese man was admitted to our hospital because of lower abdominal fullness. CT and MRI revealed a large mass in the left pelvic cavity. Transurethral bladder endoscopy showed tumor invasion, and large biopsies were obtained from the bladder lesion. Histologically, the tumor was composed of malignant round cells with hyperchromatic nuclei. Many intracytoplasmic vacuoles were present. No carcinomatous areas were seen. Immunohistochemically, the tumor cells were positive for cytokeratin (CK) 18, vimentin, p53 and Ki-67 (labeling 80%). The tumor cells were negative for panCK AE1/3, CD5/6, CK7, CK8, CK14, CK19, CK20, CK 34BE12, EMA, desmin, calretinin, WT-1, S100 protein, α-smooth muscle actin, CEA, CD34, CD45, CD20, factor VIII-related antigen, synaptophysin, p63, CDX2, and myoglobin. Because the CK18 was diffusely expressed, the pathological diagnosis was sarcomatoid carcinoma.

Keywords: Sarcomatoid carcinoma, pelvic cavity, urinary bladder

Introduction
Sarcomatoid carcinoma (SC) develops in any organs. Most cases of SC are associated with well defined carcinoma elements admixed with sarcomatous elements. SC composed of histologically pure sarcomatous element is very rare. SC in the pelvic cavity has not been described in the literature, to the best of the author’s knowledge.

Case report
A 58-year-old Japanese man complained of lower abdominal fullness and consulted to our hospital. Imaging modalities including CT and MRI revealed a large mass (9 x 8 x 5 cm) in the left pelvic cavity next to the urinary bladder (Figure 1). Transurethral bladder endoscopy showed tumor invasion, and large biopsies were obtained (Figure 2A). Histologically, the tumor was composed of malignant round cells with hyperchromatic nuclei (Figure 2A and 2B). Necrosis is present (Figure 2A). Many intracytoplasmic vacuoles were present (Figure 2B). No carcinomatous areas were recognized.

An immunohistochemical study was performed with the use of Dako Envision method, as previously described [1, 2]. Immunohistochemically, the tumor cells were positive for cytokeratin (CK) 18 (Figure 3A), vimentin (Figure 3B), p53 (Figure 3C) and Ki-67 (labeling 80%) (Figure 3D). The tumor cells were negative for panCK AE1/3, CD5/6, CK7, CK8, CK14, CK19, CK20, CK 34BE12, EMA, desmin, calretinin, WT-1, S100 protein, α-smooth muscle actin, CEA, CD34, CD45, CD20, factor VIII-related antigen, synaptophysin, p63, CDX2, and myoglobin. The intracytoplasmic vacuoles were negative for CD34 and factor VIII-related antigen. Because the CK18 was diffusely expressed, the pathological diagnosis was SC.

Imaging modalities did not show any other tumors. The patient is now treated with chemoradiation.

Discussion
The present tumor showed sarcomatous atypical cells, and p53 was positive. Ki-67 labeling is very high (80%). Therefore, the present tumor is malignant. The present tumor is located in the left pelvic cavity. Therefore, malignant localized mesothelioma is possible. However, the tumor cells were negative for CK5/6, calretinin, and WT-1, thus denying mesothelioma. The present
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Figure 1. Pelvic CT. A large tumor is seen in the left pelvic cavity next to the urinary bladder.

Figure 2. Histologic findings. A: Lower power view of the specimens obtained from the urinary bladder. A hypercellular tumor is seen. Necrotic areas are also seen. HE, x20. B: High power view of the tumor. The tumor cells are round, sarcomatoid. Cytoplasmic atypia regarded as malignancy is seen. Many intracytoplasmic vacuoles are also recognized. HE, x200.

Figure 3. Immunohistochemical findings. The tumor cells are positive for cytokeratin 18 (A), vimentin (B), p53 protein (C) and Ki-67 antigen (labeling=80%) (D).
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tumor showed many intracytoplasmic vacuoles, thus resembling angiosarcoma. However, the tumor cells and intracytoplasmic vacuoles were negative for CD34 and factor VIII-related antigen, thus denying angiosarcoma. The present tumor showed no differentiation. Markers of neurogenic, myogenic, and lipogenic lineages were negative. Thus, the present tumor seems to be difficult to diagnose as sarcoma.

Instead, the present tumor showed broad positivity of CK 18. Vimentin was also broadly expressed. Although no carcinomatous features were histologically seen in the tumor, the presence of CK18 and vimentin strongly suggests that the tumor was SC. Therefore, the author diagnosed the tumor as SC.

The primary site of the present tumor seems intrapelvic cavity. The bladder lesions may be tumor invasion. However, bladder origin is possible, because SC infrequently develop in the bladder [3, 4].

Conflict of interest statement

The author has no conflict of interest.

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