A case of primary ovarian carcinosarcoma

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Background: Primary ovarian carcinosarcoma is very rare. In addition, there are few reports describing the cytological diagnosis of carcinosarcoma. In this report, we describe the detection of carcinosarcoma through ascitic cytological diagnosis.

Case: The patient was an 80-year-old woman, gravida 2, para 2.

The chief complaint was vomiting. A sense of abdominal distension, anorexia and emesis developed, and the patient was urgent hospitalized. A large quantity of ascites and a mass measuring about 10 cm in diameter were noted on ultrasonography and CT. Respiratory insufficiency was aggravated due to the ascites, and drainage of about 3,000 ml ascites was performed, with simultaneous cytological diagnosis. As for the tumor marker, CA125 showed 49.5 U/ml. The other markers were negative. We performed systemic fluid control therapy, but the patient passed away.

We diagnosed the disease as a sarcoma from the ascitic cytological findings. The autopsy findings indicated primary carcinosarcoma of the right ovary. Moreover the sarcomatous portion was like a malignant fibrous histiocytoma.

Conclusions: We diagnosed the lesion as a carcinosarcoma from the ascitic cytological diagnosis, but the patient died very soon after admission, due to her advanced age and poor general health condition.

Key words: Ovarian carcinosarcoma — Ascitic cytological diagnosis — Case report

I. Introduction

Primary ovarian carcinosarcoma is very rare. There are few reports describing the cytological diagnosis of carcinosarcoma. The present patient died after a short disease course because of her advanced age and poor general health condition, but sarcoma-tous malignant cells were diagnosed by ascitic cytology. Moreover the sarcomatous portion was like a malignant fibrous histiocytoma. In the future, ascitic cytology will be useful for the preoperative diagnosis or treatment of this tumor associated with massive ascites.

II. Case

The patient was an 80-year-old woman, gravida 2, para 2. Neither family history nor past history was remarkable. The chief complaint was vomiting. A
sense of abdominal distension had developed over one month along with anorexia. She also complained of a 3-day history of abdominal pain, and a local doctor noted ascites and anemia. She continued to vomited and further symptoms developed, so she was transported to our hospital emergency outpatient clinic, where she was immediately hospitalized.

**Progress after hospitalization** : The patient underwent ultrasonography and abdominal CT on admission, and remarkable ascites was noted. A large quantity of ascites and a huge mass measuring about 10 cm in diameter were noted on ultrasonic tomography (Photo. 1) and CT (Photo. 2). Respiratory insufficiency was aggravated by the ascites, and drainage yielded about 3,000 ml ascites. Cytological diagnosis was performed at the same time. Regarding tumor markers, CA125 was 49.5 U/ml indicating a high level. The other markers were negative. Urine flow decreased and whole body fluid control therapy was performed. The patient passed away after 9 days of hospitalization.

**Cell findings** : As for ascitic cell findings, many inflammatory cells, a multinuclear cell and a few typical large cells are shown in Photo. 3, 4 and 5. The hilum was asymmetrical, and of a highly diffuse consistency. In addition, swelling of the nuclear body, loading of chromatin and asymmetry of the nuclear membrane were noted. The giant cell had multiple hyperchromatic and irregular nuclei. The cell was di-
Photo. 5 Aspiraton cytologic findings. Asymmetrical swelling of the nuclear body, loading of chromatin and nuclear membrane were noted and the lesion was diagnosed as a sarcoma-like malignant cell (Papanicolaou stain, ×20).

Photo. 7 Histopathological findings. The carcinomatous portion was a kind of well differentiated endometrioid adenocarcinoma (H-E stain, ×10).

Photo. 6 Macroscopic findings. The tumor was cystic with a solid component.

Photo. 8 Histopathological findings. A storiform-like area was characterized by spindle fibroblast-like cells arranged in short fascicles around slit-like vessels (H-E stain, ×10).

Histopathological findings: At autopsy, primary carcinosarcoma of the right ovary was confirmed (Photo. 6). The carcinomatous portion was a kind of well differentiated endometrioid adenocarcinoma as seen in Photo. 7, and the sarcomatous part demonstrated a pleomorphic area. A storiform-like area was characterized by spindle fibroblast-like cells arranged in short fascicles around slit-like vessels (Photo. 8). The pleomorphic area of giant cells had multiple hyperchromatic and irregular nuclei and a deeply eosinophilic cytoplasm (Photo. 9).

Immunohistochemical findings: These cells were positive for Lysozyme, α 1-AT, Vimentin, CD68 and negative for α-SMA, Desmin, HHF-35, Myoglobin. According to histopathological and immunohistochemical findings, the sarcomatous portion was thus diagnosed as like a malignant fibrous histiocytoma differentiated to liposarcoma or rhabdomyosarcoma.

Conclusions: Primary ovarian carcinosarcomas are very rare. We diagnosed the tumor in our patient as a carcinosarcoma from the ascitic cytological diagnostic findings, but she passed away due to the rapid course of the disease, her advanced age and poor general health condition.
III. Discussion

Primary ovarian carcinosarcomas are very rare, comprising about 1% of ovarian tumors\(^1,2\). In this case, we diagnosed the lesion as a sarcoma from the ascitic cytological diagnosis findings, but the patient's condition suddenly deteriorated and she died during the preoperative examination. At autopsy, the diagnosis of this disorder was confirmed. It is very difficult to diagnose this disorder preoperatively. However, we were able to diagnose this case as an ovarian carcinosarcoma by aspiration cytology. Even imaging is not easy, and it is thought that ascitic cytological diagnosis is very important. In this case, cellular findings are presented from which the diagnosis of sarcoma was reached through an ascitic cytological diagnosis. However, the diagnosis of adenocarcinoma was not clear from the cellular findings alone.

Further the sarcomatous portion was diagnosed as like a malignant fibrous histiocytoma differentiated to liposarcoma or rhabdomyosarcoma by histopathological and immunohistochemical finding. In the past, malignant fibrous histiocytoma was frequently classified as pleomorphic liposarcoma or pleomorphic rhabdomyosarcoma. Histological appearances were striform-pleomorphic, myxoid, giant cell, inflammatory\(^3\). Immunohistochemically these cells were positive for Lysozome, \(\alpha\) 1-AT, Vimentin, CD68 and negative for \(\alpha\)-SMA, Desmin, HHF-35, Myoglobin\(^4\).

It is thought that surgical excision is the highest priority, but these cases are highly advanced and anti-cancer chemotherapy is also necessary clinically. There are previous reports describing cisplatin + adriamycin + cyclophosphamide + etoposide\(^5\), cyclophosphamide + platinum analog\(^6\) and irinotecan + cisplatin\(^7\). Furthermore, there is a report describing radiotherapy\(^8\).

The patient was elderly, and in poor general condition, therefore this case did not reach treatment. However, the information may assist other patients in the future through reaching an early diagnosis based on the findings of an ascitic cytological diagnosis and other examinations.

References


