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Myxoma of the Ovary with Uncertain Malignant Potential
– A Case Report –

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Primary ovarian myxoid tumor such as myxoma, myxoid liposarcoma and myxoid leiomyosarcoma is extremely rare neoplasm. We experienced a case of unusual myxoid tumor of the ovary in a 25 year-old woman. She was admitted for an incidentally found ovarian mass during antenatal check. Radiologic studies revealed a 5.5×5 cm-sized solid mass in left ovary and she was undertaken left oophorectomy. Grossly, the round ovarian mass was measuring 8×6×5 cm, and the cut surface was predominantly solid with myxoid appearance. Microscopically, the tumor was surrounded by thick collagenous capsule and had moderate cellularity and rich vascularity. The tumor cells were stellate-shaped with abundant extracellular myxoid material without atypia. We initially thought this lesion as myxoma, but the cellularity was too high as an ordinary myxoma. Myxoid liposarcoma could also be considered as the differential diagnosis, however there was no convincing lipoblast. So, we diagnosed that tumor as myxoma with uncertain malignant potential.

Key Words : Ovarian neoplasm; Myxoma; Liposarcoma, myxoid

Tumors of the ovary are common forms of neoplasia in woman worldwide, including Korea. Among them, primary ovarian mesenchymal neoplasm is uncommon.[1,2] Especially, primary ovarian myxoid tumor such as myxoma, myxoid liposarcoma and myxoid leiomyosarcoma is extremely rare neoplasm and can cause diagnostic difficulties.

We report a case of 25 year-old woman with unusual ovarian myxoid tumor.

CASE REPORT

A 25-year-old woman was admitted for incidentally found ovarian mass during antenatal check. Radiologic study revealed a 5.5×5 cm-sized solid mass in left ovary and radiologic diagnosis was germ cell tumor such as endodermal sinus tumor (Fig. 1). She under went left oophorectomy.

Grossly, the ovarian mass measuring, 8×6×5 cm, was round and smooth with intact capsule. The cut surface showed a predominantly solid and myxoid appearance with no evidence of torsion (Fig. 2). Microscopically, the tumor was surrounded by thick collagenous capsule and had moderate cellularity with alternating hypercellular and hypocellular areas (Fig. 3A). The tumor cells were stellate-shaped with abundant extracellular myxoid materials (Fig. 3B). The tumor had relatively rich vascularity of arborizing pattern. In some areas, the tumor showed increased cellularity (Fig. 3C). But, there was neither mitotic activity nor cytologic atypia. In the special staining, the myxomatous stroma revealed positive reaction for alcian blue. There was no evidence of positive reaction for sudan black. Immunohistochemical staining revealed that the tumor cells were all negative for S-100 protein, desmin, smooth muscle actin, inhibin-α, calretinin, CD34, cytokeratin and factor VIII except vimentin (Fig. 3D). The proliferating index using immunohistochemical staining for Ki-67 was 2%.

Ultrastructural examination was done using paraffin-embed-

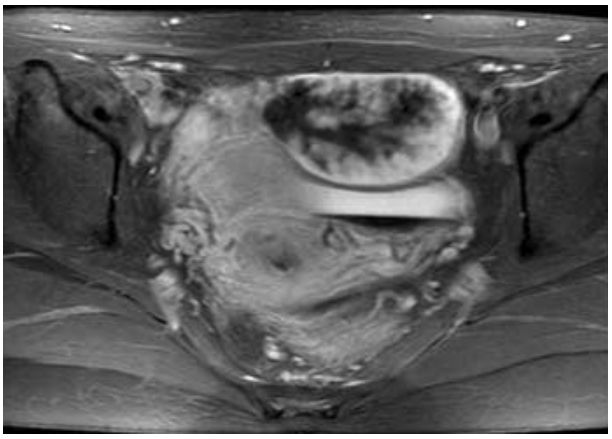

Fig. 1. On pelvis MRI, there is a 5.5×5 cm-sized mass with high signal intensity in left ovary.

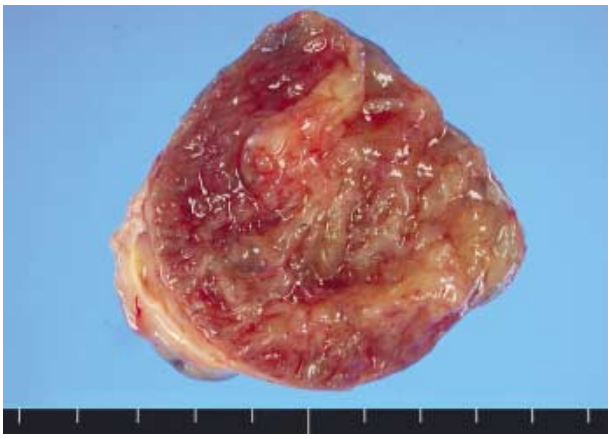

Fig. 2. A 8×6 cm-sized round mass is present in the left ovary. The cut surface of the mass is a predominantly solid and soft with myxoid appearance.

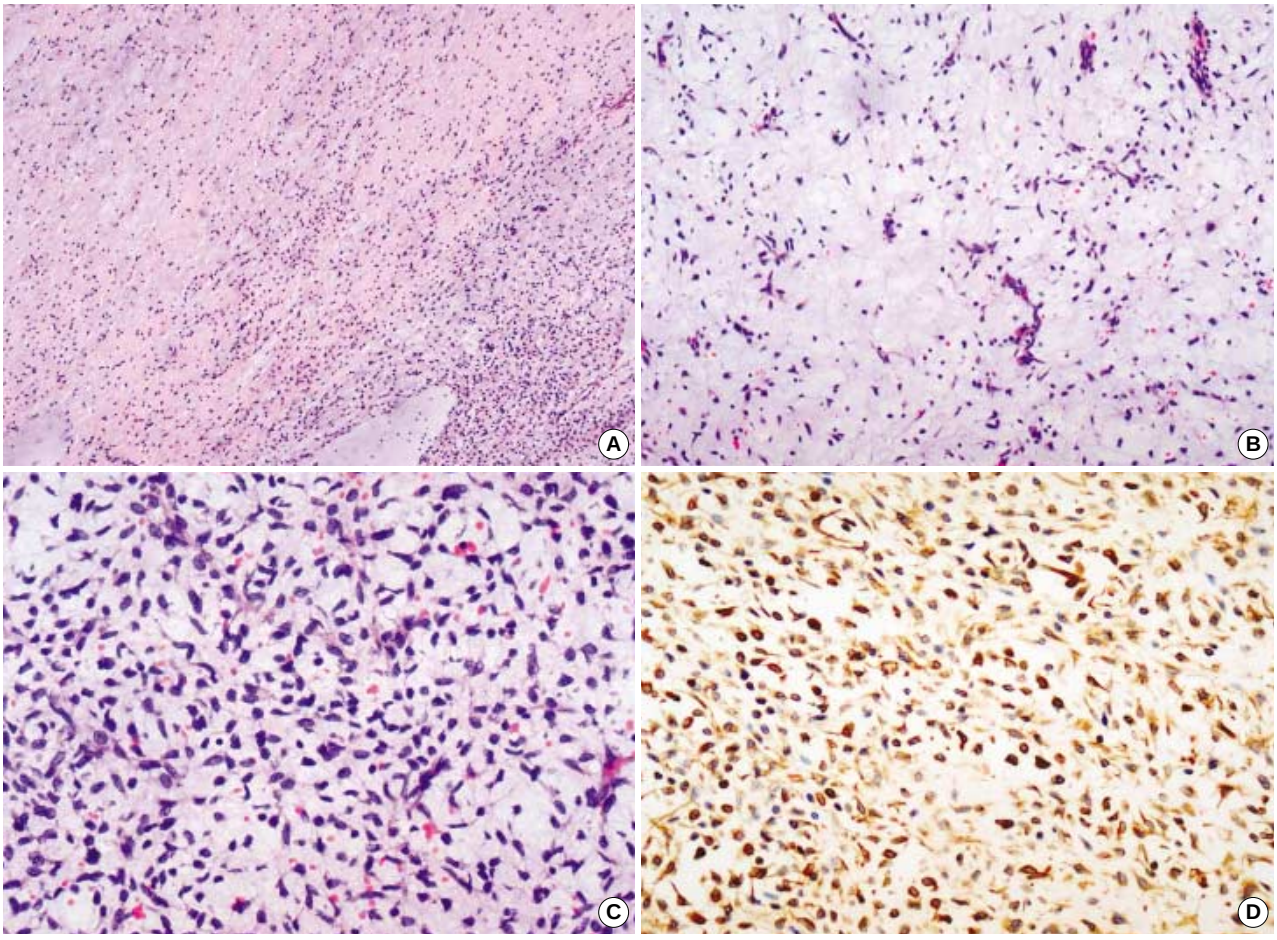

Fig. 3. (A) The tumor has moderate cellularity with alternating hypercellular and hypocellular areas. (B) The tumor cells are polygonal or stellate-shaped with abundant extracellular myxoid materials. (C) In some areas, the cellularity is focally increased, but there is neither atypia nor mitotic figure. (D) The tumor cells show immunoreactivity for vimentin.

ded block tissue. The stellate-shaped neoplastic cells were widely dispersed in an extracellular matrix containing capillaries. The nuclei of these neoploastic cells were oval, and the heterochromatin was dispersed in small central clumps. The cytoplasm of

these cells had Golgi bodies, rough endoplasmic reticulums and intracytoplasmic vesicles. There was no evidence of fat vacuoles.

The patient was asymptomatic without any evidence of recurrence or metastasis two years after the operation.

DISCUSSION

This case was an ovarian neoplasm of very unusual histologic appearance. The differential diagnosis based on light microscopy findings included primary ovarian myxoma, myxoid liposarcoma and sclerosing stromal tumor of the ovary.

The term of myxoma has been applied to relatively loose mesenchymal tumor with a myxoid appearance. However, now it is used to denote specific clinicopathologic entity at various sites, including heart, skeletal muscle, and jaw bone.[1,3] Ovarian myxoma is a very rare neoplasm and practically always benign. Only scattered case reports and small series have been described in the world literature since Dutz and Stout first recorded a case in 1961.[4-11] Microscopically, ovarian myxomas showed typical appearances of myxomas as seen in other locations. They were composed of loose myxomatous stroma and scattered stellate- or spindle-shaped cells, some of which contained hyperchromatic nuclei. There was no nuclear pleomorphism or mitotic activity. The myxomatous stroma was positive staining by alcian blue. Based on immunohistochemical analysis of myxoid areas of ovarian stromal tumors, myxomas were considered to be a variant of the thecoma-fibroma group.[11] The cellularity and proliferating index of this case were too high as an ordinary myxoma.

Thus, myxoid liposarcoma was considered as a differential diagnosis. We have been able to trace only one account of a primary liposarcoma and secondary liposarcoma, respectively.[12,13] Under the light microscope, this case was superficially reminiscent to myxoid liposarcoma because of the high cellularity, vasculature of arborizing pattern and lakes of myxoid materials. However, the tumor lacked nuclear atypia and mitosis. Moreover, there was neither convincing lipoblast nor immunoreactivity for S-100 protein. Also, the tumor was negative by sudan black B staining, and elctron microscopic examination showed no fat vacuoles.

Sclerosing stromal tumor of the ovary was also considered as a differential diagnosis. Microscopically, the tumor showed a pseudolobular pattern that cellular nodules were separated by poorly cellular areas of densely collagenous or edematous connective tissue. Prominent thin-walled vessels were commonly present within the nodules, with varying degrees of sclerosis.[2,14] At lower magnification, this case was similar to sclerosing stromal tumor of the ovary because of the cellular areas, prominent thin-walled vessels and edematous materials. However, the present case, lacked pseudolobular pattern and typical sclerosis.

In summary, this tumor was myxoid mesenchymal tumor, with increased cellularity. The biologic behavior of the tumor was unclear, but the possibility of low-grade malignant potential cannot be excluded due to high cellularity and increased proliferating index. So, we provisionally diagnosed that tumor as a myxoma with uncertain malignant potential. But, the diagnostic and prognostic significance for this lesion is unclear. In this case, the patient was asymptomatic without any evidence of recurrence or metastasis during two year follow-up.

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