Ovarian involvement of lymphoma usually occurs late in the course of a disseminated lymphoma. However, ovarian involvement as an initial manifestation of lymphoma is very rare [1]. Furthermore, most of non-Hodgkin’s lymphomas involving the ovary are those with the B-cell phenotype [2]. To our knowledge, CT findings of ovarian lymphoma as an initial manifestation of peripheral T-cell lymphoma have not been reported in the radiology literature. In this report, we describe the CT findings of peripheral T-cell lymphoma of the ovary.

Case Report

A 45-year-old woman presented with an incidentally detected, ovarian mass. She presented with headache, insomnia, and hot flush. Her past medical history was unremarkable.

Initial pelvic ultrasound demonstrated a heterogeneously hyperechoic mass in the right adnexa. The serum tumor markers were positive for CA 125: 83.29 U/ml (normal range <35 U/ml) and negative for CA 19-9, 15-3, and CEA. Contrast-enhanced CT scans showed a 6×5.3 cm diameter, heterogeneously enhancing mass in the right adnexa that invaded the adjacent uterus. An exploratory laparotomy revealed a solid mass in the right adnexa, which invaded the uterine cornus. Histological diagnosis was made as a peripheral T-cell lymphoma of the ovary.

We report here on a case of peripheral T-cell lymphoma of the ovary as the initial manifestation of extranodal disease. A 45-year-old woman presented with an incidentally detected, ovarian mass. Contrast-enhanced CT scans showed a 6×5.3 cm diameter, heterogeneously enhancing mass in the right adnexa that invaded the adjacent uterus. An exploratory laparotomy revealed a solid mass in the right adnexa, which invaded the uterine cornus. Histological diagnosis was made as a peripheral T-cell lymphoma of the ovary.

Index words: Ovary, neoplasms
Ovary, malignant lymphoma
T-cell lymphoma

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We report here on a case of peripheral T-cell lymphoma of the ovary as the initial manifestation of extranodal disease. A 45-year-old woman presented with an incidentally detected, ovarian mass. Contrast-enhanced CT scans showed a 6×5.3 cm diameter, heterogeneously enhancing mass in the right adnexa that invaded the adjacent uterus. An exploratory laparotomy revealed a solid mass in the right adnexa, which invaded the uterine cornus. Histological diagnosis was made as a peripheral T-cell lymphoma of the ovary.

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antigen (TIA). However, no immunoreactivity was noted with staining for the B-cell associated marker, such as CD 79a. Histological diagnosis was made as a peripheral T-cell lymphoma of the ovary.

After surgery, systemic investigation was performed to evaluate the presence of further lymphomatous lesions. A bone marrow biopsy and abdominal CT scan were negative. There was no evidence of extraovarian tumor. After 1 month, follow-up thoracic CT scan revealed a 1.2 cm nodular lesion in the left breast, which was histologically diagnosed as a lymphomatous lesion with the T-cell phenotype.

Despite undergoing various postoperative chemotherapy regimens, the patient died of disease 5 months later.

**Discussion**

The frequency of malignant lymphomas involving the ovaries at necropsy or autopsy is 7–26%, but less than 1% of patients with malignant lymphoma initially pr-

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**Fig. 1.** A 45-year-old woman with peripheral T-cell lymphoma involving the ovary.

A. Contrast-enhanced CT scan shows a heterogeneously enhancing mass in the right adnexa (solid arrows) with a cord-like vascular structure (arrowhead). Note the benign cystic lesion in the left ovary (open arrow).

B. Contrast-enhanced CT scan shows a heterogeneously enhancing mass in the right adnexa (solid arrows) with nodular calcification (arrowhead) that invades the adjacent uterus (open arrow).

C. Photograph of the pathologic specimen shows a white to pinkish, solid mass with congested component.

D. Photograph (original magnification, × 400; hematoxylin-eosin staining) of the ovarian mass specimen shows the diffuse growth pattern of the tumor cells with large vesicular nuclei and prominent nucleoli.
sent with ovarian mass (1). Moreover, most of the cases previously reported are thought to have been lymphoma with the B-cell phenotype (2). According to the criteria for the diagnosis of a primary ovarian lymphoma proposed by Fox et al. (3), our patient represented a case of initial ovarian manifestation of an occult generalized disease, rather than a case of primary ovarian lymphoma.

According to the previous reports (4, 5), ovarian lymphoma with the B-cell phenotype appeared as a well-defined mass with relatively homogeneous enhancement. In our case, CT scans showed a heterogeneously enhancing mass with nodular calcification and a cord-like vascular structure and the ovarian mass invaded the adjacent uterus, which are not common findings of ovarian lymphoma with the B-cell phenotype (4, 5). As compared with B-cell lymphoma, the clinical evolution of peripheral T-cell lymphoma is usually aggressive, and patients with peripheral T-cell lymphoma have a poorer response to treatment (6). These clinical findings could be related with the aggressive radiologic finding.

Pre-treatment calcification in lymphoma is rare. Because dystrophic calcification frequently occurs in degenerated or necrotic tissue resulted from infarction, and because such infarction can occur in histologically aggressive lymphoma, the nodular calcification seen in our case may be attributed to dystrophic calcification (7).

Peripheral T-cell lymphoma of the ovary should be differentiated from other solid ovarian masses and pedunculated intraligamentous uterine leiomyoma. Although the incidence is very low and imaging features are non-specific, it is essential that peripheral T-cell lymphoma of the ovary be included in the differential diagnosis if the ovarian mass associated with calcifications exhibits a tendency toward local invasion.

In summary, we report a case of peripheral T-cell lymphoma of the ovary as the initial manifestation of extranodal disease.

References