MR Imaging of Xanthogranulomatous Oophoritis

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There is a little information about the features of xanthogranulomatous oophoritis on magnetic resonance imaging (MRI), and diffusion-weighted imaging (DWI) findings have not been described.

A 37-year-old woman who had delivered her second child 1 month earlier presented to her gynecologist with persistent fever (temperature of 38°C) and right lower abdominal pain. A tender right ovarian mass with rebound tenderness was found on pelvic examination.

Trans-vaginal ultrasonography showed a well-defined cystic right adnexal mass with a honeycomb appearance. To further characterize the lesion, we performed 1.5T MRI of the pelvis. MRI revealed a multilocular cystic mass measuring approximately 7 cm in diameter in the right adnexal region. The cyst contents showed a high-signal intensity on T2-weighted images (T2WI), a low-signal intensity on T1-weighted images (T1WI) and a high-signal intensity on DWI (b = 1000 s/mm2), with a low apparent diffusion coefficient (ADC) map (Fig. 1A, B, D, E). On T2WI, this multilocular cystic mass had irregular thickening walls and the signal intensity was heterogeneous. At the irregularly thickened region, a cluster of intramural nodules ranging from 1 to 2 cm in diameter with high-signal intensity were visualized on T2WI. The irregularly thickened cyst wall showed enhancement, while the intramural nodules were not enhanced (Fig. 1C).

The nodules had low-signal intensity on DWI with a high ADC map, unlike the cysts. From these findings, a right tubo-ovarian abscess was suspected.

Right salpingo-oophorectomy was performed. On microscopic examination of the irregularly thickened cyst wall and intramural nodules, we found a large number of foamy histiocytes with clear lipid-containing cytoplasm and other chronic inflammatory cells (Fig. 2A and 2B). The final pathologic diagnosis was xanthogranulomatous oophoritis affecting the right ovary.

MRI of xanthogranulomatous cholecystitis is reported that the gallbladder thickening wall has intramural nodules with demonstrate a low-signal intensity on T1WI and high-signal intensity on T2WI. On DWI, the intramural nodules have a slightly higher signal intensity than the liver parenchyma, with a high ADC map. Addition of DWI to conventional MRI improves discrimination between xanthogranulomatous cholecystitis and cholangiocarcinoma with intramural growth.

In our patient, the right ovarian mass was cystic, with thick walls and multiple intramural nodules. The intramural nodules were hypointense relative to the myometrium on T1WI and hyperintense (similar to water) on T2WI. In addition, the nodules showed no enhancement and there was no restriction of diffusion on DWI. Pathological examination revealed that these intramural nodules were xanthogranulomas, which are foci of granulomatous inflammation with foamy histiocytes and lymphocytes. Therefore, this case suggests that the characteristic MRI findings of xanthogranulomatous oophoritis are multiple non-enhancing intramural nodules in a thickened cyst wall, with the nodules showing high-signal intensity on T2WI, a low-signal intensity on T1WI, and low-signal intensity on DWI along with a high ADC map. These striking intramural nodules represented histologic abscesses or xanthogranulomas are reminiscent of those seen in xanthogranulomatous cholecystitis.
Conflicts of Interest
The authors declare that they have no conflicts of interest.

References