Case report

Hepatic endometrioma: a case report and review of the literature

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Abstract. Extrapelvic endometriosis is not uncommon but hepatic endometrioma is extremely rare. Ultrasound, CT and MR features of hepatic endometrioma are discussed and the literature is reviewed in this report.

Key words: Endometriosis – Liver neoplasms, – Diagnosis

Introduction

Endometriosis is a condition characterized by the presence and proliferation of endometrial tissue outside the uterus [1]. Ectopic endometrium has been described in almost every location of the female and even in the male body [2]. It is most frequently located in pelvic organs. Unusual and remote sites of involvement include the umbilicus, laparotomy or incisional scars, arms, legs, kidney, diaphragm, gastrointestinal tract, inguinal hernial sacs, bladder wall, lungs, pleura, pancreas, heart and bone [3, 4]. The only organ in the abdominal cavity that is apparently refractory to the disease is the spleen [5].

Intrahepatic location of endometrioma is unusual and imaging findings of a few cases of hepatic endometrioma, mostly with US and CT, are described in the literature [6, 7, 8, 9, 10, 11]. In this report we present correlative cross-sectional images, including MR examination, of a case and review the imaging features described in the literature.

Case report

A 25-year-old female who was known to be surgically treated twice for pelvic endometriosis previously was referred to our abdominal imaging unit for the evaluation of her pelvic pain, mass and rectal haemorrhage. Barium enema, endoscopy, US and CT examinations revealed bilateral ovarian masses which were invading rectosigmoid colon and peritoneal fat. Histopathological diagnosis of the endoscopic biopsy was endometriosis. Upper abdominal US, CT and MR for evaluation of possible intraperitoneal dissemination showed a mass of 5 cm in diameter at the right lobe of liver. This mass was round, well defined and heterogeneous including anechoic cystic and echogenic solid components, septations and fine nodular calcifications on the US examination (Fig. 1). A CT scan showed a round, well-defined heterogeneous mass with septations. There was fine punctate/nodular calcifications at the periphery of the lesion (Fig. 2). Both on US and CT, there was a subtle wall-like peripheral zone. On MR images, a lobulated but well-demarcated subcapsular mass was seen at the posterior segment of the right lobe of liver. Postero-inferior portion of the mass was hypointense on T1-weighted images (Fig. 3a) and slightly hyperintense on T2-weighted images (Fig. 3b). The remaining part of the lesion was hyperintense on both sequences, and more marked on T2-weighted sequence. On T1-weighted images following intravenous Gd-DTPA injection (Fig. 3c), low-signal areas showed inhomogeneous enhancement, but hyperintense part of the mass became less marked compared with the surrounding liver parenchyma, due to normal enhancement of the parenchyma. Those hyperintense areas on T1- and T2-weighted images were suggestive of subacute haemorrhage, whereas enhancing areas were considered to be solid. Focal punctate hypointensities on both sequences near the postero-inferior margins were due to calcifications which were also present on CT images. Percutaneous Tru-cut biopsy was done under CT control after completing all imaging studies. Histopathological result of the biopsy was “endometriosis externa”. Because our patient refused operation, Danazol therapy was initiated.

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Endometrioma of the liver is extremely rare and it is difficult to explain the pathogenesis of this lesion [6, 7]. The pathogenesis of endometriosis is explained by the implantation or the coelomic metaplasia theory [1, 10, 11, 12, 13]. For our case, together with the previously reported cases of extrapelvic endometriosis, we believe that the aetiology is still uncertain and either of these mechanisms may be responsible. But we also believe that vascular spread would provide a plausible explanation for the increasing numbers of reported cases of endometriosis of the parenchyma of the lung and liver.

When we searched previous reports for hepatic endometriosis in the literature, we found five reports of hepatic endometriomas [6, 7, 8, 9, 11] and one report describing two cases of hepatic lesion together with one case of pancreatic lesion [10]. Because Finkel et al. [6] and Grabb et al. [8] reported a single case separately in two different journals, the correct number of total cases of reported liver endometriomas is six including our case. Our case is most unusual as there are only few reported instances of hepatic location. Most of the previously reported cases describe US and CT findings, whereas this report presents MR findings additional to US and CT.

The gross and microscopic pathological appearances of endometriosis vary widely depending on the location, extent, age and endocrine response of the lesion [14]. The appearance of endometriotic tissue depends on the degree of its response to the normal hormonal fluctuations of the menstrual cycle. Endometriotic foci may enlarge to produce nodules, cysts or both. Most authors have described intrapelvic masses that can be cystic, solid or of mixed appearance [8]. Because of this wide range of morphological features of endometriomas, there are no characteristic findings with which to distinguish either pelvic or extrapelvic endometriosis from other processes; therefore, clinical history is important for proper diagnosis.

Table 1 summarizes the previously reported cases and ours, comparing the morphological features of hepatic endometriomas. Imaging features of our case and previously reported cases are reviewed in Table 2.

Endometriomas typically have a fibrotic wall of variable thickness and are commonly covered by dense fibrous adhesions that may result in fixation to adjacent structures [14, 15]. Most of the previously reported cases described a wall structure either smooth [6, 7, 8], membranous [10], ragged [10] or undulating [11] at imaging or gross morphological examination. Our case had a wall-like structure at the periphery of the lesion which was not obvious at imaging. Whereas most of the reported cases were pure cystic either at imaging or gross examination, our case was heteroge-