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Gynecology and Minimally Invasive Therapy

journal homepage: www.e-gmit.com

Clinical images

Laparoscopic vision of giant hepatic hemangioma

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ARTICLE INFO

Article history:

Received 20 March 2015

Received in revised form

7 May 2015

Accepted 24 August 2015

Available online 18 September 2015

A 58-year-old postmenopausal woman presented with intermittent vaginal spotting for 4 months. She neither had history of abdominal pain nor discomfort. An endometrial biopsy was performed and revealed endometrioid adenocarcinoma. In addition to laparoscopic surgical staging for endometrial cancer, magnetic resonance imaging (MRI) study was scheduled to evaluate abdominal and pelvic metastasis. The MRI findings were coronal invasion of the uterus with incidental finding of a huge left lobe liver tumor 113 mm in size (Figure 1A). The liver tumor had high signal intensity and was lobulated. These findings are typically compatible with benign hepatic tumor or hepatic hemangioma. Liver metastases are usually asymptomatic and several small lesions are always found during workup in patients with cancer. Huge hepatic metastasis should be symptomatic, such as localized right upper quadrant pain and tenderness owing to capsular stretching, ascites, low-grade fever, and abnormal liver function. In this case, the patient had no suggestive symptom of liver metastases. Because the natural history of hepatic hemangioma is usually asymptomatic and uncomplicated, we decided to perform laparoscopic surgical staging without intervention for the hepatic tumor. Intraoperative laparoscopic findings were myometrial invasion of the uterus, and normal bilateral tubes and ovaries without lymphadenopathy or peritoneal lesion. A giant, smooth surface,

dark red lesion was found in the liver, and it was compatible with hepatic hemangioma (Figure 1B). Our patient underwent complete laparoscopic surgical staging without complication and had a good recovery. The computed tomography (CT) scan of the whole abdomen at 6 months after the operation showed no evidence of recurrence of the endometrial cancer. The hepatic hemangioma had a similar size and enhancement (Figure 2).

The laparoscopic approach to surgery for endometrial cancer is a safe procedure, with morbidity rates and outcomes comparable between centers.¹ Hepatic hemangiomas are the most common benign hepatic tumor. With incidence rates ranging from 1% to 20%, they are predominantly found in women (5:1). Hormonal effect may be one of the pathogenic mechanisms. Some of these tumors have estrogen receptors, and accelerated growth has been observed with high-estrogen states.²

Hepatic hemangiomas are mostly solitary. Tumors larger than 5 cm are called *giant* hemangiomas and can present with fibrosis, thrombosis, and calcifications.³ These tumors are composed of dilated endothelial-lined vascular channels and infiltrated by varying degrees of fibrous stroma. Macroscopically, they appear spongy and are filled with dark venous blood. Generally, the tumor

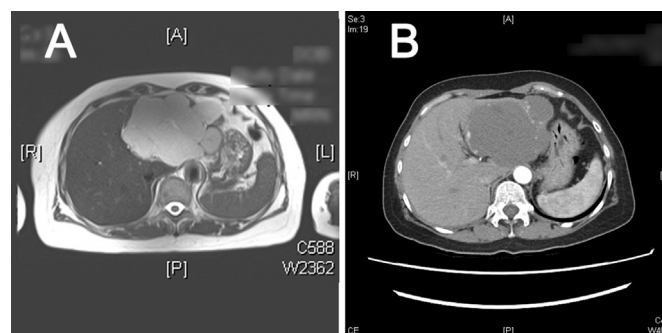


Figure 1. (A) Preoperative magnetic resonance imaging (MRI) shows a lobulated high-intensity-signal tumor in the left lobe of the liver. (B) Follow-up postoperative computed tomography (CT) scan confirms hepatic cavernous hemangioma with early peripheral puddling and gradual centripetal perfusion.

Conflict of interest: The authors declare that there are no conflicts of interest.

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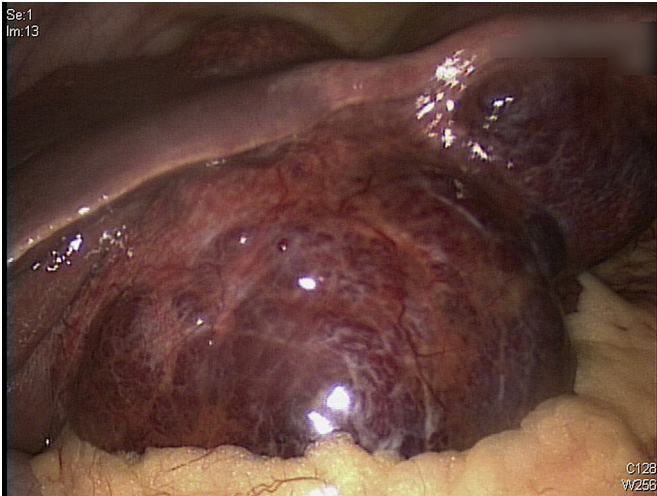


Figure 2. Laparoscopic view of huge hepatic hemangioma with a smooth contour and characteristic dark red color.

has no fibrous capsule but occasionally has vascular channels that may extend into the adjacent liver parenchyma.⁴

Hepatic hemangiomas are often asymptomatic and usually found incidentally on abdominal imaging studies performed for symptoms and signs unrelated to this lesion. In general practice, the diagnosis of hepatic hemangioma may be made with ultrasonographic findings, but it needs to be confirmed by CT scan or MRI. Although CT and MRI have similar resolutions for imaging liver lesions, MRI is more specific for characterizing cavernous hemangiomas.⁵ Liver abnormalities were also found incidentally at the time of laparoscopy. A report showed that the most common

incidental hepatic lesion in benign gynecologic laparoscopy was perihepatic adhesions (Fitz–Hugh–Curtis syndrome).⁶ At present, laparoscopy is the best choice to diagnose this lesion.⁷ Other incidental liver abnormalities in laparoscopy are hepatic cirrhosis, adenoma, and hepatic hemangioma. The incidence rate of these incidental liver findings is only 0.06%.⁶

The natural history of hepatic hemangiomas is typically not progressive. The tumor is usually not enlarged or ruptured. Intra-abdominal hemorrhage from hepatic hemangioma is rare. If the patients are asymptomatic or have minimal symptoms, no treatment is required regardless of the tumor size. Indications for surgical resection of hepatic hemangiomas are severe symptoms, inability to exclude malignancy, or complications such as ruptured hemangioma. The other less effective treatment options include transarterial embolization and radiotherapy.⁸

References

1. Jung JJ, Thain S, He S, Yam KL, Lim TYK. Minimally invasive surgery for gynecological cancers: experience of one institution. *Gynecol Minim Invasive Ther.* 2014;3:73–77.
2. Glinkova V, Shevah O, Boaz M, Levine A, Shirin H. Hepatic haemangiomas: possible association with female sex hormones. *Gut.* 2004;53:1352–1355.
3. Hoekstra LT, Bieze M, Erdogan D, Roelofs JJTH, Beuers UHW, Gulik TMV. Management of giant liver hemangiomas: an update. *Expert Rev Gastroenterol Hepatol.* 2013;7:263–268.
4. Gorge RM, Newmark GM, Thakrar KH, Mehta UK, Berlin JW. Hepatic incidentalomas. *Radiol Clin North Am.* 2011;49:291–322.
5. Salam B, Hamid RS, Haq T, Sayani R. Case report hemangiomas of liver; A radiologists perspective. *PJR.* 2010;20:27–29.
6. Tulandi T, Falcone T. Incidental liver abnormalities at laparoscopy for benign gynecologic conditions. *JAAGL.* 1998;54:403–406.
7. Wilamarta M, Haung KG, Casanova J, Thepsuwan J. Laparoscopy is the best choice to diagnose Fitz–Hugh–Curtis. *Gynecol Minim Invasive Ther.* 2013;2:135–136.
8. Yoon SS, Charny CK, Fong Y, et al. Diagnosis, management, and outcomes of 115 patients with hepatic hemangioma. *J Am Coll Surg.* 2003;197:392–402.