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Case Report
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Open Right Hepatectomy to Treat a Giant Liver Cystadenoma: A Case Report

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Abstract

Background: Hepatic cystadenomas are rare tumors occurring mainly in women representing about 5% of reported cystic lesions of the liver. Most occur in middle age women and they usually are incidental findings. They can cause compressive symptoms due to their large size. Because of their malignant potential and high rates of recurrences surgical treatment becomes necessary.

Case Report: A 38 year old female presented a complex hepatic cyst in the right lobe that had presented an important growing over the last two years. Physical examination revealed a giant palpable mass in all right superior quadrant of abdomen. Computerized Tomography (CT) showed an 18 cm × 15 cm complex cystic mass with septae and central solid area in the right lobe. She underwent an open right hepatectomy without intercurrences and a histological analysis confirmed a liver cystadenoma. Atypia areas were observed in the lesion (without malignant invasive transformation). To date, one year late she is alive without either symptoms or recurrence.

Conclusion: Giant cystadenomas are rare tumors that are associated with high rates of recurrence and potential for malignancy. Total resection of the lesion even performing a major hepatectomy is advisable in order to prevent recurrences and to treat an incidental malignant neoplasm.

Keywords: Cystadenoma; Hepatic cystadenoma/surgery; Hepatobiliary cystadenoma; CA 19.9; Liver/surgery; Hepatectomy

Introduction

Cystadenomas of the liver are rare tumours that are infrequently reported representing about 5% of reported cystic lesions of the liver. Most occur in middle age women, they usually are incidental findings and they can eventually cause compressive symptoms due to their large size. Its histopathogenesis is unknown. These tumors usually involve the hepatic parenchyma (approximately 85% of cases) and occasionally the extrahepatic biliary tract. The size of the tumor is variable and ranges from 1 cm, 5 cm to 15 cm and 0 cm in diameter [1-6].

All cystadenomas in women or men should be excised completely because of their malignant potential and the inability to distinguish a cystadenoma from a cystadenocarcinoma or other malignant cystic tumours on the basis of preoperative investigations [7-12].

Treatment of giant hepatic cysts remains challenging due to significant hepatic distortion, proximity to major vessels and the biliary tree, concerns of malignancy and sometimes oversized lesions [11,13]. Complete surgical resection is the treatment of choice, with incomplete resection resulting in recurrence and possible malignant transformation [6-9,11-14].

Although a wedge resection or segmentectomy can be used to remove smaller tumours, an anatomic resection even a major hepatectomy may be necessary to treat giant and hepatic central lesions. Present authors report a case of a 38-year-old woman with large cystadenoma who underwent a successful open right hepatectomy without any intercurrence. Nowadays, one year after this operation this patient is alive with a good quality of her life, and presents none recurrence.

Case Presentation

A 38-year-old female patient complained of abdominal pain in the upper right quadrant and sensation of mass. She mentioned bariatric surgery performed 2 years before her admission. She also reported a hepatic cyst in the right lobe that was persistently growing over the last 2 years.

Physical examination revealed an 18 cm × 15 cm tumor in the right superior quadrant of the abdomen. An abdominal CT revealed a 18 cm × 15 cm complex cystic mass with septae and central

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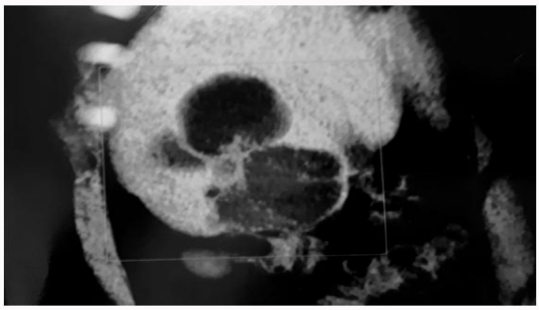

Figure 1: Hepatic cystadenoma. Contrast preoperative tomography showing a large solid cystic lesion septated in the right lobe.

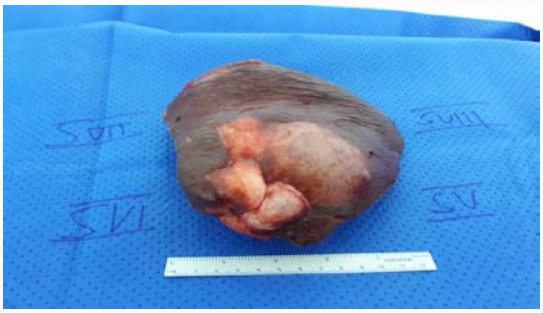

Figure 2: Aspect of the surgical specie- right hepatectomy (80% hepatic mass).

solid area that practically involved all right hepatic lobe (Figure 1), apart from segment VIII. Preoperative CA 19.9 seric level was 289 ng/dl, 9 ng/dl.

In according these findings with a high possibility of a malignant degeneration, she underwent an open straightforward right hepatectomy with anterior approach that presented none postoperative intercurrence (Figure 2). She presented a good recovery without postoperative complications and was discharged on the 7th postoperative day. A histological analysis confirmed a liver cystadenoma with atypia areas, though without malignant invasive components.

To date, one year after hepatic resection, she is alive without either symptoms or recurrence (Figure 3). Currently, she also presents an excellent quality of life.

Discussion

Cystadenomas of the liver are rare tumours that are infrequently reported representing about 5% of reported cystic lesions of the liver. Generally, they occur in women, being very rare in male gender. They are often discovered incidentally at a routine physical examination or on imaging studies, such as Ultrasound (US), CT scan or MRI [1-6]. Less frequently, nonspecific symptoms related to compression of neighbor organs may be present. Symptoms depend on the size and the location of the lesion, and the final diagnosis is made after surgical resection, upon pathological evaluation. The typical presentation is that of an expanding mass in the right upper quadrant accompanied by pain like observed in present case. Besides that can be present nausea, vomiting, cholangitis, sepsis. Another unusual presentation includes obstructive jaundice, ascitis secondary to portal vein compression, and intracystic hemorrhage may occur. Regarding to complications, there may be bleeding, rupture, malignant transformation, infection,

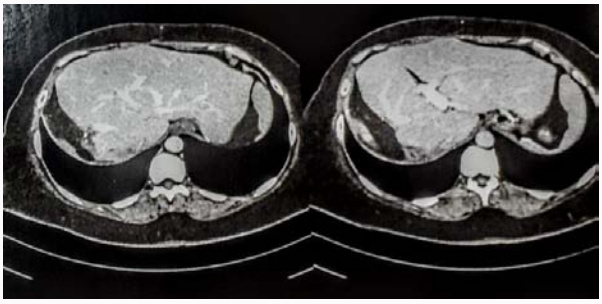

Figure 3: CT after one year of intervention - Open right hepatectomy.

gastric outlet obstruction, ascites and inferior vena cava obstruction [1-14].

These tumors usually involve the hepatic parenchyma (approximately 85% of cases) and occasionally the extrahepatic biliary tract. The size of the tumor is variable and ranges from 1.5 cm to 15 cm in diameter. Giant lesions like present case are very rare [11,13].

Hepatic cystadenomas appear such as multilocular (rarely unilocular) cystic lesions that are surrounded by a smooth and thick fibrous capsule with numerous internal septations and intraluminal papillary projections, which are lined by mucous-secreting cuboidal or columnar biliary epithelium like observed in present case. A loose layer of collagen-containing blood vessels, nerves, and bile ducts further surrounds this area. The etiology of hepatic cystadenomas is unknown though the marked female preponderance suggests a role for hormonal influence [3].

Two types of hepatic cystadenomas are described pathologically: Mucinous and serous. Mucinous cystadenoma is the predominant type (95% of cases) that occurs in women. They can be located in the intrahepatic region (84%), the common bile duct (6%), the hepatic ducts (4%), and the gallbladder (2%).

There are 2 distinct classes of liver cystadenomas based on the presence or absence of "mesenchymal stroma" with the majority of cystadenomas with mesenchymal tissue occurring in woman. There is also a correlation between mesenchymal stroma and the risk of cystadenocarcinoma [2].

Both good clinical history and physical examination may guide the diagnostic that must be confirmed with completion of the imaging tests such as ultrasound, Computed Tomography (CT) or Magnetic Resonance Imaging (MRI) which shows chemical tumors, usually bulky, multilocular and with internal septa, which help to differentiate them from simple hepatic cysts. Serological tests are of great help in differential diagnosis. The association between hepatic cystic lesion and elevation of CA 19.9 is indicative of cystadenoma [5]. Carbohydrate antigen 19-9 (CA19-9) has sometimes been regarded as a tumor marker because it has been shown to be elevated in patients with cystadenoma and to decrease after surgery however, definite diagnostic criteria have not been established for CA19-9 levels in cystic fluid [7,10].

The prognosis of hepatic cystadenomas is extremely good if patients undergo a complete surgical resection with most series showing low rates of morbidity and mortality after proper surgical resection. This way even a major hepatectomy can be performed to attain a total removing of the lesion with a healthy tissue margin around it like done in present case. Enucleation may be an alternative

for superficial lesions and large central lesions that are closely related to the main vascular and biliary structures. Wedge resection or segmentectomy can be used to remove smaller tumours [1-14].

Sometimes, a major anatomic hepatectomies with a tactical intent need to be performed like described at present report. This approach avoids a lesion rupture with possible dissemination of neoplasic cells still offering wide margins besides that an extensive bleeding because an intense manipulation. In this present case, the use of the anterior approach was a very interesting maneuver that could also avoid an extensive manipulation of this giant tumor which presented extensive-strong adherences to vena cava where the manipulation could lead to a dangerous intraoperative bleeding from vena cava.

All cystadenomas in women or men should be excised completely because of their malignant potential and the inability to distinguish a cystadenoma from a cystadenocarcinoma or other malignant cystic tumours on the basis of preoperative investigations. The risk of malignant transformation of cystadenoma to cystadenocarcinoma can be as high as 20% [6].

The procedure can be performed by laparotomy or laparoscopy depending on the size and location of the tumor [1,6,7,11-15]. Although, we have performed the majority of our cases by means laparoscopic approach, central and giant lesions like this case is in our view point a relative contraindication for this via [15]. In the rare cases of bilobar tumoral extension a hepatic transplantation may be necessary due to the impossibility of resection [4].

In some, radical resection is the only curative treatment of the giant hepatic cystadenoma in which may eventually include a major anatomic hepatectomy. Although could seem very aggressive it leads a high level of control disease.

Conclusion

Hepatic cystadenomas are rare tumors that are part of the differential diagnosis of various hepatic cystic pathologies. Because of its indefinite etiopathology, its high recurrence rates and high transformation potential for malignancy, its complete resection is necessary. The inability to distinguish a cystadenoma from a cystadenocarcinoma or other malignant cystic tumors based on preoperative research reinforces the need for an oncologic resection to provide increased survival and can effectively prevent recurrence. A radical excision with wide margins with an anatomic major hepatectomy may be necessary in order to avoid tumor perforation and extensive intraoperative bleeding too.

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