

琉球大学学術リポジトリ

[症例報告]A large nonparasitic liver cyst requiring surgical intervention : A case report

メタデータ	言語: 出版者: 琉球医学会 公開日: 2010-07-02 キーワード (Ja): キーワード (En): nonparasitic cyst, liver, recurrence after aspiration, surgical intervention (unroofing) 作成者: Sanabe, Naoya, Nomura, Hironori, Hiroyasu, Shungo, Shiraishi, Masayuki, Muto, Yoshihiro メールアドレス: 所属:
URL	http://hdl.handle.net/20.500.12000/0002016114

A large nonparasitic liver cyst requiring surgical intervention : A case report

Naoya Sanabe, Hironori Nomura, Shungo Hiroyasu, Masayuki Shiraishi
and Yoshihiro Muto

*The First Department of Surgery, Faculty of Medicine,
University of the Ryukyus, Okinawa, Japan*

(Received on February 15, 2000, accepted on April 25, 2000)

ABSTRACT

The case of a large nonparasitic liver cyst with a 9-year history of cyst recurrence after undergoing aspiration therapy in a 78-year-old woman is herein reported. Nine years prior to this admission, she underwent an operation for a hernia of the lumbar intervertebral disc. At operation, a large liver cyst was incidentally detected, and the cyst was aspirated at that time to relieve her abdominal pain. Five years after the initial therapy, she developed abdominal distension and pain. The patient again underwent cyst aspiration. Thereafter, she experienced a 4-year symptom-free period after the second cyst aspiration. On admission, an abdominal CT scan revealed a large simple cyst measuring 17×12×17 cm in size which occupied most of the right liver lobe extending down to the right lower quadrant. At laparotomy, a large cyst showed extensive fibrous adhesions to the adjacent viscera. Following lysis of adhesions and the evacuation of the cyst fluid, the cyst, which was bulging into the abdominal cavity, was almost totally excised (unroofing). She remained asymptomatic 5 months after discharge. The standard treatment for nonparasitic liver cysts currently consists of cyst aspiration and alcohol sclerotherapy. However, the long-term follow-up of cysts after aspiration is unknown. Therefore, at present, cyst recurrence after aspiration may require either cyst unroofing or a partial excision. *Ryukyu Med. J.*, 19(4)235~238, 2000

Key words: nonparasitic cyst, liver, recurrence after aspiration, surgical intervention
(unroofing)

INTRODUCTION

Benign nonparasitic liver cysts that were previously considered to be rare are now being more frequently encountered due to the increased use of such imaging procedures as ultrasonography and CT. Most cysts do not require treatment unless symptoms develop or complications occur. For symptomatic liver cysts or cysts with complications such as intracystic bleeding or cyst perforation, the treatment options range from percutaneous cyst aspiration¹⁻⁶⁾ to liver surgery⁷⁾. Currently, percutaneous cyst aspiration and laparoscopic cyst resection⁸⁾ have emerged in this lesion as a minimally invasive treatment procedure, and have shown a low rate of morbidity and mortality. Therefore, both procedures are considered to be the treatment of choice. However, recurrent large liver cysts after cyst aspiration may not be a candidate for either of these treatments because of difficulties in management. We herein describe a case of a large nonparasitic liver cyst with frequent recurrence after aspiration which was treated with surgical intervention

because of multiple adhesions between the cyst and the surrounding viscera.

CASE REPORT

A 78-year-old woman was admitted to our University Hospital for the treatment of a large nonparasitic cyst of the liver on July 8, 1999. In 1991 when the patient previously underwent an operation for a hernia of the lumbar intervertebral disc at a local hospital, a liver cyst was incidentally detected. The patient underwent percutaneous cyst aspiration because of abdominal pain due to abdominal distension by a large liver cyst. The patient had a 5-year symptom-free period after the initial cyst aspiration. In July 1996, the patient again developed episodes of abdominal pain, and thereafter the patient was treated by cyst aspiration. Three years later, the patient experienced abdominal pain which became exacerbated in the supine position and during deep inspiration, but no episodes of fever or jaundice were observed one month before this admission.

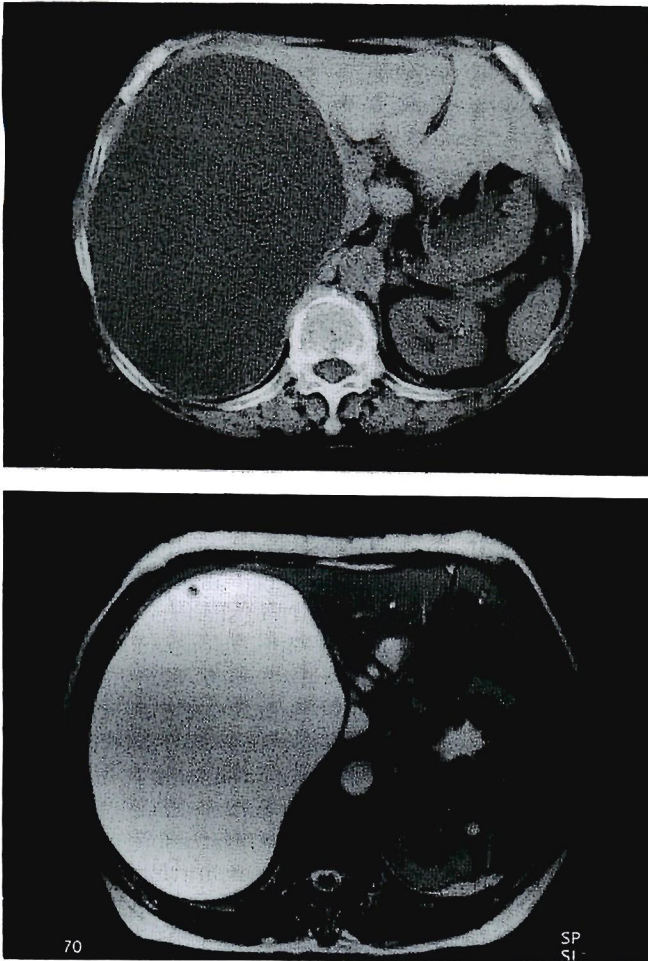


Fig. 1 An abdominal CT scan showing a large simple cyst occupying most of the right lobe of the liver (top) and a T2-weighted MRI revealing similar findings to that of the CT scan (bottom).

The patient denied any past history of abdominal trauma or a family history of cystic disease of the liver or kidney. Laboratory tests were essentially normal except for an alkaline phosphatase level of 387 IU/L (normal 110-355). A stool examination for ova and parasites was repeatedly negative. Amoebic and viral hepatitis serologies were negative. Alpha fetoprotein was normal. The physical examination revealed the abdomen to be protuberant in the right upper quadrant and midepigastrium. A soft, smooth, mildly tender palpable mass extended from the right upper quadrant to the right lower quadrant which moved with respiration. No ascites were detected. Abdominal ultrasonography and a CT scan revealed one large and two small (3.3cm, 3.6cm in diameter) round, simple, homogeneous, hypoechogenic and noncalcified cysts (Fig. 1). The largest measured 17 × 12cm in size and occupied most of the right hepatic lobe. No renal cysts were present.

At laparotomy, a large grayish, smooth-surfaced cyst was found in the anteroinferior surface of the right

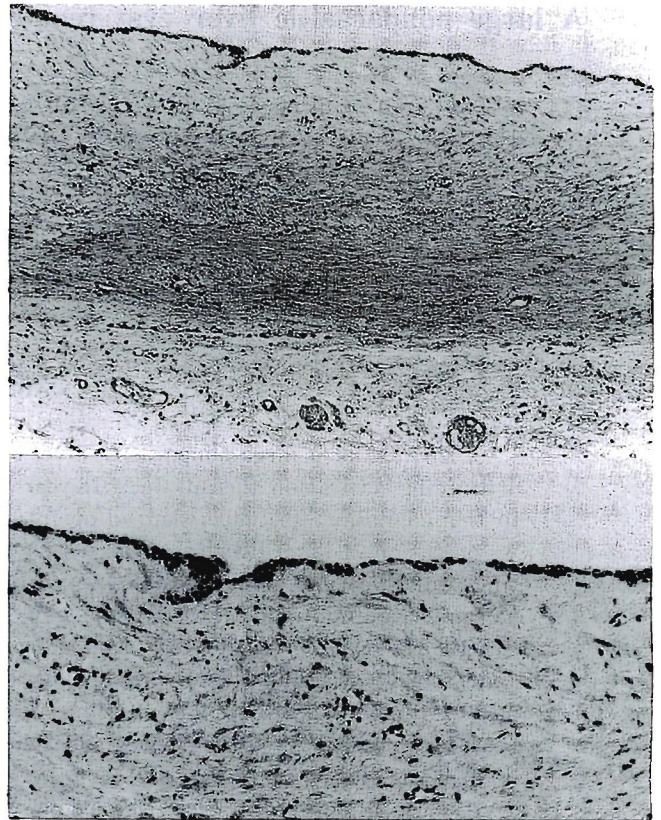


Fig. 2 Microphotographs of the cyst wall showing connective tissue lined by cuboidal to columnar epithelial cells. (top; HE, × 5) (bottom; HE, × 25)

lobe of the liver, extending from the liver to the right lower quadrant and showing extensive adhesions on to the surrounding viscera. No free ascitic fluid was detected. After lysing these adhesions from the adjacent viscera, approximately 2000ml of clear, straw-colored fluid was aspirated and thereafter the cyst which bulged into the abdominal cavity was almost totally excised. Cultures for bacteria and cytology for malignancy were negative. Grossly, the inner surface of the cyst was smooth, grayish and glistening with no papillary projections. Histologically, the cyst was lined by cuboidal and columnar epithelial cells and the cyst wall was composed of loose connective tissue (Fig. 2). The patient had an uneventful postoperative course and was discharged two weeks after surgery. She remained asymptomatic 5 months after being discharged.

DISCUSSION

Nonparasitic cysts of the liver occur more often in females than in males, with the ratio being 5 to 1. Although many liver cysts are congenital, they usually do not become clinically expressive until the patients are between 30 and 50 years of age⁹⁾. Based on the natural history of the nonparasitic liver cysts, certain liver

cysts steadily increase in size with age until a sufficient size to compress the adjacent viscera, thus resulting in symptoms and leading to complications. The right lobe of the liver is involved more often than the left lobe^{4, 10-12}.

Our major concern in treating nonparasitic liver cysts is identifying risk factors and warning signs for producing symptoms or developing complications, thus providing a rational basis for selective early intervention. Unfortunately, there have so far been very few reports concerning such risk factors. Both the cyst size and cyst location in the liver are major risk factors for developing symptoms. Although symptomatic liver cysts reported in the literature vary in size, a review of the literature suggested that cysts larger than 7^{4, 7} to 12cm^{12, 13} tend to require treatment because of the high risk of developing clinical symptoms. Abdominal pain is the major symptomatic expression and a palpable abdominal mass is one special physical finding. Less commonly, the presenting symptoms and signs arise from pressure on the adjacent structure such as obstructive jaundice^{3, 11, 14}, pyloric obstruction or even vena cava obstruction^{15, 16}, and such symptoms depend largely on the location of the cyst (around the porta hepatis).

Warning signs for developing complications include abdominal pain of recent onset with nausea and vomiting, and rapidly growing or large cysts^{3, 17-19}. However, the number of reported cases is still too small to definitively categorize the warning signs.

The treatment options for nonparasitic liver cysts include a total removal of the cyst by enucleation or hepatic resection, unroofing (a partial resection), a cystenterostomy and ultrasound-guided cyst aspiration and ethanol sclerotherapy. The ideal operation is a complete excision of a cyst. However, this procedure is not easy because there may be no clear line of cleavage, such cysts are fragile, and either enucleation or a hepatic resection is seldom possible without a great loss of blood from the raw surface of the liver after removing a large cyst. If a large cyst is situated deep within the liver parenchyma, percutaneous cyst aspiration and alcohol sclerotherapy should be considered as an alternative treatment because an excision of such cysts appears to be unduly hazardous.

As a result, ultrasound-guided cyst aspiration and alcohol sclerotherapy has been developed, and the use of this procedure for nonparasitic liver cysts has increased due to encouraging results⁴. This procedure has currently become an alternative to surgical intervention. Recent advances in diagnostic modalities such as ultrasound and CT have now made it possible to determine an accurate diagnosis of nonparasitic liver cysts. Due to advances in these diagnostic procedures, cyst aspiration and alcohol sclerotherapy for nonparasitic liver cysts has usually been performed as a standard treatment in most institutions⁴. In our case the patient underwent unroofing of the cyst because of both cyst recurrence

after aspiration and the presence of a large-sized cyst.

Complications of cyst aspiration include bleeding, sepsis, abdominal pain, bile peritonitis and others³. However, experience with aspiration for various types of liver cysts has shown a low rate of morbidity and mortality, provided that the cyst is nonparasitic and nonneoplastic.

In conclusion, although the number of cases reported is still small, a review of the literature indicates that nonparasitic liver cysts measuring larger than 7 to 12cm in diameter require treatment because of a high risk of developing symptoms or complications. Percutaneous cyst aspiration and alcohol sclerotherapy with ultrasound guidance appears to be a safe and effective therapy. However, the long-term follow-up of such cysts after aspiration therapy is still unknown. As a result, cyst recurrence after aspiration therapy may require either unroofing or a partial resection.

ACKNOWLEDGEMENT

Authors are grateful to Mr. Brian Quinn for his excellent comments on this manuscript.

REFERENCES

- 1) Bean W.J. and Rodan B.A.: Hepatic cysts: treatment with alcohol. *A.J.R.* 144: 237-241, 1985.
- 2) Trinkl W., Sassaris M. and Hunter F.M.: Nonsurgical treatment for symptomatic nonparasitic liver cyst. *Am. J. Gastroenterol.* 80: 907-911, 1985.
- 3) Capell M.S.: Obstructive jaundice from benign, nonparasitic hepatic cysts: Identification of risk factors and percutaneous aspiration for diagnosis and treatment. *Am. J. Gastroenterol.* 83: 93-96, 1988.
- 4) Fujii H., Yamamoto H., Tanaka T., Tanigawa N. and Muraoka R.: Treatment of hepatic cyst by ethanol injection into the cavity and a review of 66 cases in Japan. *Nippon Rinshogeka Gakkai Zasshi* 53: 1681-1686, 1992.
- 5) Inayoshi A., Sawada T., Azuma T. and Yagi Y.: Three cases of nonparasitic liver cyst treated by intracystic instillation of acetic acid under ultrasonic guidance. *Nippon Shokakibyō Gakkai Zasshi* 94: 627-631, 1997.
- 6) Masunaga T., Shinozaki K., Takeda R., Araki I. and Ueno T.: A case of non-parasitic huge hepatic cyst with left renal dysfunction treated with multiple intracystic injection of absolute ethanol and minocycline hydrochloride. *Kanzo* 40: 79-85, 1999.
- 7) Nagao T., Inoue S., Izu M., Wada Y., Kawano N. and Morioka Y.: Surgical experience with nonparasitic cysts of the liver - the characteristics and constituents of cyst fluid-. *Jpn. J. Surg.* 21: 521-527, 1991.
- 8) Libutti S.K. and Starker P.M.: Laparoscopic resection of a nonparasitic liver cyst. *Surg. Endosc.* 8: 1105-1107, 1994.
- 9) Litwin D.E.M., Taylor B.R., Langer B. and Greig

- P.: Nonparasitic cysts of the liver. The case for conservative surgical treatment. *Ann. Surg.* 205: 45-48, 1987.
- 10) Jones W.L., Mountain J.C. and Warren K.W.: Symptomatic non-parasitic cysts of the liver. *Br. J. Surg.* 61: 118-123, 1974.
 - 11) Sanfelippo P.M., Beahrs D.H. and Weiland L.H.: Cystic disease of the liver. *Ann. Surg.* 179: 922-925, 1974.
 - 12) Hadad A.R., Westbrook K.C., Graham G.G., Morris W.D. and Campbell G.S.: Symptomatic nonparasitic liver cysts. *Am. J. Surg.* 134: 739-744, 1977.
 - 13) Santman F.W., Thijs L.G., van der Veen E.A., den Otter G. and Blok P.: Intermittent jaundice; A rare complication of a solitary nonparasitic liver cyst. *Gastroenterology* 72: 325-328, 1977.
 - 14) Komiyama K., Morimoto S., Sato J., Ogawa R., Kanesaki A., Tuboi Y., Ui T., Mase Y. and Tanaka T.: Case report: a non-parasitic hepatic cyst with obstructive jaundice treated with absolute ethanol. *Nippon Shokakibyō Gakkai Zasshi* 86: 2597-2601, 1989.
 - 15) Frisell J., Rojdmarm S., Arvidsson H. and Lundh G.: Compression of the inferior caval vein - a rare complication of a large non-parasitic liver cyst. *Acta Med. Scand* 205: 541-542, 1979.
 - 16) Fukui M., Kogawa T., Tawara Y., Yamamoto Y., Matsuyama K., Tsujigiwa M., Yoshikawa T., Sugino S. and Kondo M.: A case report of huge liver cyst with edema of lower extremities. *Nippon Shokakibyō Gakkai Zasshi* 89: 2798-2803, 1992.
 - 17) Akiriviadis E.A., Steindel H., Ralls P. and Reddeker A.G. Spontaneous rupture of of nonparasitic cyst of the liver. *Gastroenterology* 97: 213-215, 1989.
 - 18) Ayyash K. and Haddad J.: Spontaneous rupture of a solitary nonparasitic cyst of the liver. *Acta Chir. Scand.* 154: 241-243, 1988.
 - 19) Suzuki T., Kawata Y., Tanaka Y. and Yazaki K.: Ruptured nonparasitic liver cyst caused by blunt abdominal trauma. *Rinsho Hoshasen* 34: 905-908, 1989.