

Laparoscopic management of a large solitary non-parasitic cyst of the liver in an elderly patient

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Solitary cysts of the liver are rare lesions especially in elderly patients and they are diagnosed incidentally after abdominal US or CT scan. We present a case of a solitary benign cyst of the liver in an 80-year-old male patient that was treated laparoscopically with partial cystectomy (wide unroofing) using the ultrasound shears. The patient was admitted to our department with mild symptoms, consisting mainly of abdominal discomfort, during the

previous year. He was subjected to laparoscopic wide unroofing, he had an uneventful postoperative course and was discharged at the third postoperative day. The aim of the presentation is to emphasize the rarity of this pathological condition in the elderly patients, to analyze the technical feasibility of such management and to evaluate the safety and outcome of the procedure.

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Non-parasitic liver cysts are rare lesions especially in elderly patients¹. Today most of them are found incidentally due to the improvements in the imaging techniques and the widespread use of ultrasound and CT, as screening methods in patients with abdominal symptoms².

They are true cysts and they have an identifiable epithelial lining. They are usually asymptomatic and in most cases the cystic wall consists of clear fluid, but occasionally it may contain clear fluid mixed with bile, if they communicate with the biliary tree³. The current management of simple solitary non parasitic cyst involves the laparoscopic partial cystectomy (uproofing) along with other more conventional methods such as the open surgery or the percutaneous drainage³⁻¹⁰.

We present a case of a large solitary non-parasitic cyst (17cm x 17cm) of the liver, in an elderly male patient that was treated with laparoscopic partial cystectomy and we discuss the technical features, the safety and the outcome of such management.

Case presentation

A male patient 80 years old, with moderate heart disease and moderate hypertension was admitted to our department due to abdominal discomfort because of a large solitary cyst of the liver. The cyst was an incidental finding seven years ago, after an abdominal US examination.

On physical examination a painless soft swelling on the right upper abdominal quadrant was palpable. The patient's hematological profile was within the normal values. Abdominal CT scan revealed a solitary non-parasitic cyst with a diameter of 17 cm without any diaphragms inside the cyst. The cyst was located in the right lobe of the liver (Fig. 1).

Operation

Under general anesthesia a standard pneumoperitoneum was established. Trocar placement was similar to the one in laparoscopic cholecystectomy. The 30° degree laparoscope was used. The cyst fluid was aspirated percuta-

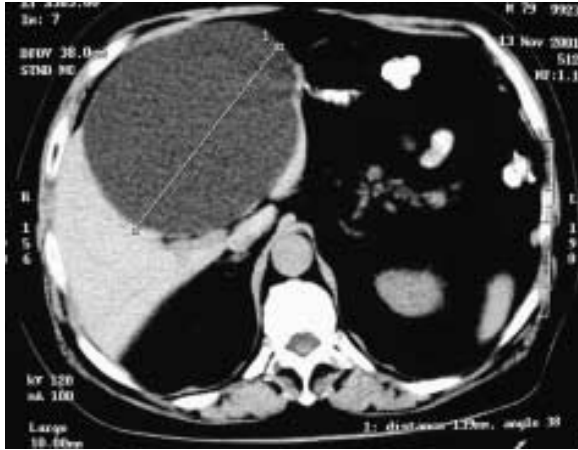


Figure 1. CT scan showing a solitary cyst in the right lobe of the liver.

neously via a 16g needle and was found to be clear and bile-free. Following the aspiration a small window was created in the cyst using the 10 mm ultrasound shears (Ultrason, Ethicon, USA), and the remaining fluid was fully aspirated through a suction/irrigation device introduced via the fourth port (Fig. 2). The cyst contained a total of 1750 ml of fluid. Afterwards the cyst wall was meticulously inspected and no intracystic tumor or septae were found (Fig. 3).

Histologic examination of the resected cyst showed fibrous tissue with a simple internal layer of low columnar epithelium along with entrapped groups of hepatocytes (Fig. 4).

The superficial cyst wall was excised using ultrasound shears (Ultrason, Ethicon, USA), and it was easily removed through the hypoxiphoid port. The whole procedure lasted about 40 minutes.

The patient had an uneventful postoperative course and was discharged from hospital at the third postoperative day.

Discussion

Although simple cysts are found in about 1% of necropsied adults, very few of them become large, and even fewer cause symptoms. Benign liver cysts are rare lesions and are found more frequently today due to significant improvements of imaging methods and the widespread use of ultrasound as a screening examination in patients with abdominal symptoms². Solitary non-parasitic cyst of the liver have different origin from

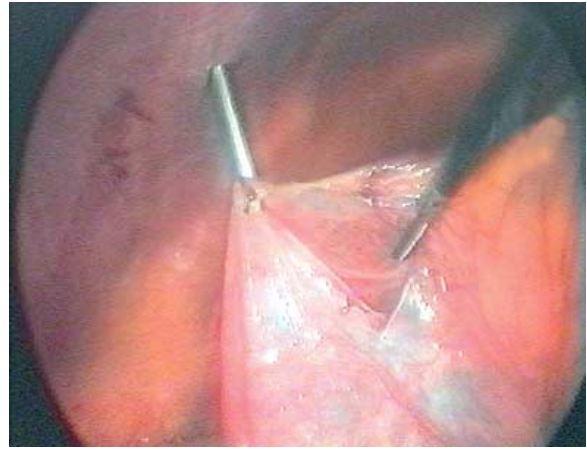


Figure 2. Fluid aspiration through a suction device.

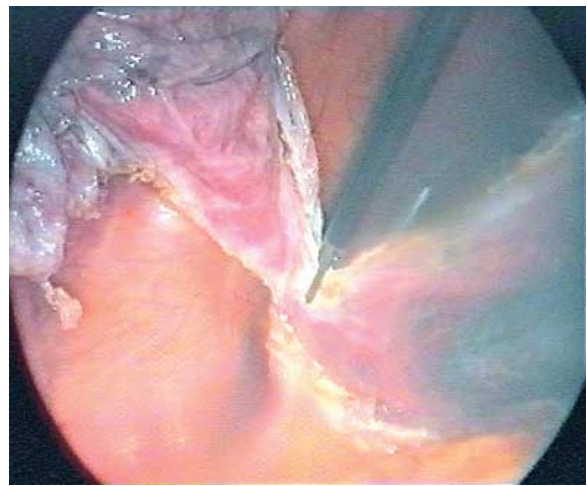


Figure 3. Cyst wall inspection after fluid aspiration.

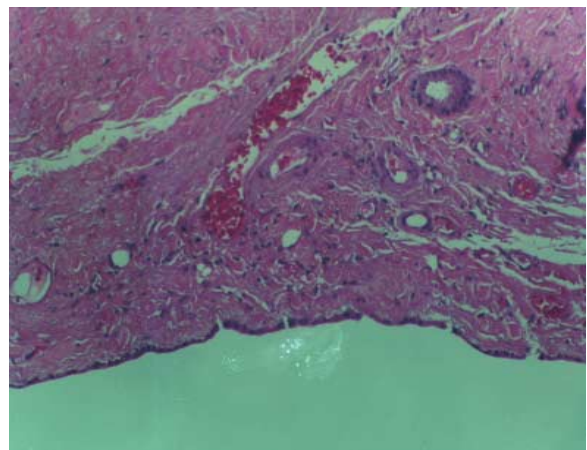


Figure 4. Histologic picture of the cyst wall AE \times 20.

polycystic disease because the latter coexists with cysts in the kidneys, pancreas and lungs⁴. Solitary cysts are in most of the cases asymptomatic, and are usually incidental findings on abdominal ultrasound or CT scans and do not require treatment². However, as they expand, they may cause symptoms, and may require treatment. Uncomplicated simple cyst, are almost never septated, but hemorrhage into the cyst may confuse the differential diagnosis from cystadenoma or cystadenocarcinoma³. Complications such as rupture, infection or intracystic hemorrhage can occur but are not very common³. Several therapeutic approaches have been described. Simple aspiration of the cyst with or without injection of sclerosing solution results in almost 100% recurrence, and it was associated with high failure rate, and recently it has been abandoned³. Additionally internal drainage with cyst jejunostomy, liver resections and partial cystectomy has been proposed⁸.

Partial cystectomy consists of wide unroofing of the superficial cyst wall. This technique was introduced by Lin et al⁹, and can be performed either by laparotomy or more recently laparoscopically^{3,5-7,9}. From several centers it has been reported recurrence rate ranging from 0% to 14.3% and morbidity rates of 0% to 25%³. From those results we can assume that the only definitive treatment is the surgical treatment. Laparoscopic partial cystectomy has been proved safe and today is considered as the operation of choice for solitary cysts that do not communicate with the biliary tree and are located on the anterior or inferior surface of the liver³.

The laparoscopic management of the solitary cyst is safe and does not require specific instrumentation or advanced skills

Conclusion

In summary, minimally invasive techniques may be used for treating solitary benign liver cysts in selected patients. The size of the lesion is less important than its anatomical location. Laparoscopic partial cystectomy of solitary cysts in elderly patients is simple, safe and is considered the procedure of choice for large, symptomatic cysts that do not communicate with the biliary tree.

ΠΕΡΙΛΗΨΗ

Γ. Φραγκανδρέας, Δ. Γιακουσιτίδης, Κ. Πατσιούρα, Δ. Καραμάνος, Δ. Τσαντήλας, Θ. Γερασιμίδης. Λαπαροσκοπική αντιμετώπιση μεγάλης μονήρους κύστεως σε ηλικιωμένο ασθενή. Ιπποκράτεια 2001, 5 (4): 147-150

Οι μονήρεις κύστες του ήπατος, είναι σχετικά σπάνιες ιδιαίτερα σε ηλικιωμένους ασθενείς και αποτελούν τυχαία ευρήματα μετά από υπερηχογράφημα άνω κοιλίας ή αξονική τομογραφία κοιλίας. Παρουσιάζουμε μία περίπτωση μονήρους κύστεως του ήπατος, σε έναν ασθενή 80 ετών, η οποία αντιμετωπίστηκε με λαπαροσκοπική μερική κυστεκτομή (partial unroofing), χρησιμοποιώντας τη διαθερμία υπερήχων. Ο ασθενής εισήλθε στην κλινική μας με ήπια συμπτώματα, κυρίως με κοιλιακή δυσφορία κατά τον προηγούμενο χρόνο. Ο ασθενής υπεβλήθη σε λαπαροσκοπική μερική κυστεκτομή, είχε ομαλή μετεγχειρητική πορεία και εξήλθε από την κλινική την τρίτη μετεγχειρητική ημέρα. Ο σκοπός της εργασίας είναι να παρουσιάσουμε την σπανιότητα αυτής της παθολογικής κατάστασης στους ηλικιωμένους, να αναλύσουμε τις τεχνικές ιδιαιτερότητες και να εξετάσουμε την ασφάλεια και το τελικό αποτέλεσμα της μεθόδου.

REFERENCES

- 1 Gerasimidis Th, Marakis G, Efremidis S, Kehagia T, Sbarounis HN. Single non-parasitic cysts of the liver. Hellenic Armed Forces Review 1985, 19(3):
- 2 Caremani M, Vincenti A, Benci A, Sassoli S, Tacconi D. Echographic epidemiology of non-parasitic hepatic cysts. J Clin Ultrasound 1993, 21:115-118
- 3 Regev A, Reddy KR, Berho M, Sleeman D, Levi J, Livingstone AS, Levi D, Ali U, Molina EG, Schiff ER. Large cystic lesions of the liver in adults: A 15-year experience in a tertiary center. J Am Coll Surg, 2001 193:1 36-45
- 4 Taylor BR, Langer B Current surgical management of hepatic cyst disease. Adv Surg 1998, 31:127-148
- 5 Hansen P, Bhojyul S, Legha P Laparoscopic treatment of liver cysts. J Gastrointest Surg 1997, 1:53-60
- 6 Libutti SK, Starker PM Laparoscopic resection of a non-parasitic liver cyst. Surg Endosc 1994, 8:1105-1107
- 7 Morino M, De Giuli M, Festa V, Garrone C Laparoscopic management of symptomatic nonparasitic cysts of the liver: indications and results. Ann Surg 1994, 219:157-164
- 8 Litwin DEM, Taylor BR, Greig P, Langer B Nonparasitic cysts of the liver: the case of conservative surgical management. Ann Surg 1987, 205:45-48

- 9 Lin TV, Chen CC, Wang SM Treatment of non-parasitic liver cystic disease of the liver: a new approach to therapy with polycystic liver. *Ann Surg* 1968, 168:921-927
- 10 Katkhouda N, Mavor E, Gugenheim J, Mouiel J Laparoscopic management of benign cystic liver lesions. *J Hep Pancr Surg* 2000, 7:212-217

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