SOLITARY NON-PARASITIC CYST OF THE LIVER

REPORT OF A CASE

BY

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Non-parasitic cysts of the liver may be single or multiple, are more common in females than in males in the proportion of 4 to 1, and although they may occur at any age most of the reported cases have been in children. Sonntag (1913) has suggested the following classification: (1) blood and degeneration cysts; (2) dermoid cysts; (3) lymphatic cysts; (4) endothelial cysts; (5) cysts due to bile-duct obstruction; (6) cystadenomata.

Multiple cysts may be limited to the liver alone, but more commonly they are associated with cysts of the kidneys, spleen, pancreas, or other abdominal organs—polycystic disease.

According to Moschcowitz (1906) the solitary non-parasitic cysts of the liver with which we are now concerned are congenital in nature and of biliary origin, perhaps arising from aberrant bile ducts resulting in benign cystic adenomata. The cyst is usually situated in the right lobe of the liver, although on occasion it may involve the left lobe, the quadrate lobe, or even the round ligament itself. It varies considerably in size: it may be as small as a pea or as large as a human head. It may be wholly or partially intrahepatic or it may be pedunculated.

Up to the present date some 400 cases have been reported in the literature. Stoesser and Wangenstein (1929) reviewed 104 cases, Beattie and Robertson (1932) 80 cases, and Davis (1937) 188 cases. Cases of unusual interest have been described by Wikle and Charache (1936) and recently by Jennings (1939).

Clinical Features

Solitary non-parasitic cysts of the liver apparently grow very tardily and in most instances produce few if any symptoms of note, advice being sought on account of the presence of a painless abdominal swelling. At times, however, there may be a sudden onset of acute symptoms. This is seen, for instance, when a brisk haemorrhage occurs into the cyst, when suppuration supervenes, or when, in the pedunculated variety, the pedicle becomes twisted. A correct pre-operative diagnosis is rarely made, the majority of the cases being diagnosed on exploratory coeliotomy or at necropsy.

The condition, as I have pointed out, is usually symptomless unless complications occur or the cyst compresses some adjacent viscus such as the extrahepatic bile ducts or the first portion of the duodenum. With compression there may be acute hepatic pain, nausea, vomiting, or jaundice. As many of these cysts arise from the anterior or inferior surface of the right lobe of the liver clinical examination will determine the site of the tumour, while radiography may show that the tumour is part of the liver shadow. With large cysts or tumours of the liver the colon is pushed downwards and to the left of the abdomen, whilst in the case of a large swelling of the kidney the colon lies over the tumour. This point can be verified by a barium enema x-ray examination of the large bowel.

In the case of a large pedunculated cyst of the liver downward displacement is limited by anchorage to the liver, but a considerable degree of lateral movement is often obtained. Pneumoperitoneum followed by x-ray examination may be helpful, and peritoneoscopy may

clinch the diagnosis. Liver-function tests as a rule show little deviation from the normal. According to Schaack (quoted by Ackman and Rhea, 1931) the operative death rate of non-parasitic cysts of the liver is 12%. Beattie and Robertson estimated the mortality at 16.1%, whilst in Boyd's (1913) series it was as high as 32.3%.

Treatment

Excision of the cyst is the ideal treatment. This is possible when the cyst has a pedicle; when it is situated in an accessible position it can either be enucleated or be removed by wedge resection. In the cases reported by Davis and by Jennings the broad pedicle by which the cyst was suspended from the liver was crushed by Ochsner forceps, cut across distal to the clamp, and then transfixed, firmly ligatured, and oversewn with strong chromic catgut. In Wikle and Charache's case the cyst was shelled out of the liver substance just lateral to the gall-bladder. After the cyst had been removed the margins of the denuded surface of the liver were approximated with interrupted sutures, leaving a right lobe fairly normal in size and appearance. There was no evidence of haemorrhage into the cyst cavity, nor was there any palpable evidence of cystic involvement of the kidneys, pancreas, or other abdominal organ.

When the cyst is largely intrahepatic the fluid should be removed by aspiration; the cyst wall should be laid open, and as much of this as possible should be excised. The resulting cavity is then packed with gauze and marsupialized. A great number of cases have been reported where marsupialization and drainage have had to be carried out because extirpation of the cyst was impossible. In all cases the kidneys, pancreas, and other organs should be examined for the presence of multiple cysts, and if these are found nothing surgical should be attempted. During operation on a solitary cyst of the liver it is of the utmost importance to wall off the cyst from the rest of the abdominal cavity in order to avoid spilling the contents of a possible hydatid cyst.

Case Report

A housewife aged 49 was admitted on June 11, 1937, to the Southend General Hospital under my care, complaining of a large painless swelling in the upper abdomen. She had never been abroad, and there was nothing of particular interest in her history. There was, for instance, no history of indigestion, of colicky abdominal pains, of jaundice, or of a sharp blow in the epigastrium or over the right lower ribs, nor had she at any time noticed that her stools were putty-like or that her urine was dark brown in colour. She was worried about the steady increase in size of the abdominal tumour.

On examination she proved to be a healthy well-covered woman; the heart and lungs were normal, the spleen and kidneys were not palpable, and an investigation of the pelvic organs revealed that the uterus and adnexa were healthy. The right hypochondriac region and the epigastrium were occupied by a large painless cystic tumour which moved freely on respiration. The cyst was continuous with the hepatic dullness above, while below in the region of the umbilicus its smooth rounded lower margin could be readily made out. It could not be reduced to the right loin, and there was little if any lateral mobility. There was no thrill on percussion, the temperature and pulse rate were normal, the urine contained no abnormal constituent, and the stools were light brown in colour and well formed.

A barium meal examination showed the stomach, the duodenum, and the right colon to be displaced downwards and towards the middle line by the dense hepatic mass, whilst a cholecystogram revealed an elongated but well-functioning gall-bladder.

Following these investigations it was decided to explore the abdomen in order to investigate the nature of the cystic swelling. The exploration was conducted through a lengthy

right paramedian incision. It was at once seen that the right lobe of the liver was entirely replaced by a globular cystic swelling, the surface of which was pearly white in colour and was traversed by many thin-walled tortuous veins. The adherent gall-bladder was stretched out over the cyst as a long sausage-like green rubber balloon. The gall-bladder was compressed with the fingers and its contents were expressed. Its flaccid walls were found to be healthy and elastic; no gall-stones were present, and the common bile duct was seen to be normal in appearance. The contents of the cyst were aspirated, and as much as three pints or more of colourless, odourless, sticky, alkaline, albuminous fluid was withdrawn. Following the aspiration the cyst wall collapsed into a shapeless mass. The interior of the cyst was trabeculated and was smooth and shiny, suggesting that it was lined with a well-formed layer of cubical epithelium. The walls, which were nearly 5 mm. thick, were anchored to the skin of the abdominal wound. A large-bore rubber tube was inserted into its spacious cavity and sutured into position, and during the first week after operation there was a considerable discharge of brown-stained gummy fluid. This, however, soon ceased following daily instillations of quinine-urethane and lithocaine.

The patient was discharged from hospital on the twenty-first day after operation with the abdominal wound soundly healed. She was examined again by me nearly nine months later, when she was looking the picture of health and there was no sign of any return of her former trouble.

Summary

The clinical features of solitary cyst of the liver are described and an account is given of the appropriate operative treatment.

An illustrative case is reported.

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Clinical Memoranda

Surgical Emphysema Complicating Phthisical Haemoptysis

The rarity of this complication is the reason for reporting its occurrence.

HISTORY OF CASE

On November 17, 1937, a native boy was admitted to hospital complaining of epistaxis. A week previously, on the evidence of a positive blood film, he had been treated for malaria. Unfortunately I have no notes of the state of his chest on admission, as he had lost his out-patient notes; but I cannot recollect any gross lesion. Subsequently the following history was obtained from him (by interpretation—often a painful and weary procedure!). He had had a slight cough since the previous July, which had started when he "had brought up some blood." He had had no pain or fever, but afterwards used to get some pain in the shoulders and the lower part of the chest on the left side. It had, however, in no way interfered with his football.

On November 18 I was called to him in the morning on account of a very severe haemoptysis. He had already filled a large kidney bowl with frothy blood, and there was a fair amount in a bucket as well. His pulse was hardly perceptible, and owing to his critical condition no detailed examination of his chest was made. He was kept under morphine for about forty-eight hours. Examination on November 20 revealed surgical emphysema over the whole thorax, back and front, the neck, and face, limited above by the temporal fascia. The lower limit then was the inguinal ligament on the

right side, and roughly the crest of the ilium and the umbilicus on the left side. By the next day it had reached the inguinal ligament on the left and the scrotum on the right side, and by the following day both sides showed surgical emphysema in the scrotum. The day after the haemoptysis his temperature, which had been normal on admission, rose to 103°, at which point it remained for about five days; for the next ten days it was round about 101°, and it did not descend to normal until three weeks after the haemorrhage. For three weeks there was then a nightly rise to about 99.6°, and after that for a few months to 100° or 101°.

The haemorrhage stopped on the second day, and the surgical emphysema ceased to spread after reaching the upper limit of the temporal fascia and the lower limit of the inguinal ligaments and the scrotum. Thereafter it gradually diminished over the whole area, and by December 7 it had entirely disappeared. Thus I could detect no trace of surgical emphysema seventeen days after I had first discovered it.

Eighteen weeks after the boy's admission the physical signs in the chest were as follows: The sputum contained tubercle bacilli. The patient was wasted, the ribs and Mohnheim's fossae showed up markedly, and the left apex revealed diminished movement. The apex beat was visible two inches from the midline in the fourth intercostal space; palpation confirmed this, and also revealed a diminished vocal fremitus at the left apex, where there was a "boxy" note on percussion, with bronchial breathing and increased vocal resonance, with whispering pectoriloquy on auscultation. No adventitious sounds were heard at this apex. After the disappearance of emphysema there was for a week a coarse pleural rub over the whole chest; this remained at the right base and was still persisting at the time of this examination.

Unfortunately in May, 1938, the boy's parents insisted on taking him away to their little native kraal, where after a few weeks he had another haemoptysis and died.

COMMENT

One can only assume that following his first small haemoptysis adhesions persisted somewhere between the two layers of pleura, which was the site of the second tuberculous ulceration. This ulceration must have eroded both layers and a vessel at the same time; or possibly the double layer was weakened by the disease process, and the erosion of a near-by blood vessel caused a violent fit of coughing with consequent rupture of the weakened pleura. It is difficult to fix the point of rupture. If it were the left apex it is not easy to say why the spread of the emphysema was more rapid on the right side; yet, on the other hand, the more rapid spread to the upper limit suggests that the apex was the site of the pleural lesion, more especially as it was on the left side that the patient had felt discomfort in the months following the early mild haemoptysis in July.

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Recurrent Peptic Perforation

The term "recurrent peptic perforation" has been used indiscriminately to describe a recurrence of perforation whether of the same or of a fresh ulcer, or even of an anastomotic ulcer. All these varieties of recurrence are rare, but a search for recorded cases reveals that this rarity is not so marked as to justify an apparently commonly held belief that if the patient has had one perforation he need not fear another. The following notes of a case of recurrent duodenal perforation illustrate this point.

CASE HISTORY

The patient, a woman aged 65, gave a long-standing history of gastric trouble. In April, 1938, she had a haematemesis, following which she was radiographed and the diagnosis of duodenal ulcer confirmed. On May 9, 1939, she was admitted to hospital under my care exhibiting typical signs and symptoms of perforation. Operation revealed a moderate-sized perforation of a chronic ulcer on the anterior aspect of the duodenum. As there was no evidence of stenosis the