

opening than there is when the edges of the gall bladder are drawn up to the edge of the skin, as in this way the surface from which granulations can grow is much curtailed.

In these cases he has always followed the rule of providing drainage for the gall bladder, and has not attempted to at once close the wound in its wall by suture.—*Boston Medical and Surgical Journal*, December 8, 1892.

V. Multiple Echinococci in the Abdominal Cavity.

By Dr. A. WESTHOFF (Greifswald). Two of the seven cases observed at the clinic are of considerable interest. The first, a laborer, had a large echinococcus cyst of the right lobe of the liver, which had been evacuated by a transverse incision below the costal arch. After two months' treatment by drainage he was discharged with a fistula, and was readmitted to the hospital six months later. The fistula still persisted, and it had discharged vesicles shortly before his readmission. There was now present a marked enlargement of the left lobe, but no tumor could be made out. The abdomen was opened in the linea alba and the liver was found greatly swollen and cedematous. Elastic tension at one place suggested, however, the existence of a parenchymatous cyst of the liver, and a portion of the processus ensiformis was resected to allow this spot to be brought up and sutured in the abdominal wound. A few days later exploratory puncture revealed pus at a considerable depth and the liver tissue was cut into with a Paquelin canterly knife until a large suppurating echinococcus cyst was opened. This was drained, and the cavity was completely closed by the end of three months.

The second case was a farmer, aged forty years, who suffered from continual and obstinate constipation. His stomach was much swollen and painful; he had intense headache and anorexia, and his general condition had greatly deteriorated. His symptoms only dated back about three weeks. After evacuation of the bowels, the abdomen being less distended, a large tumor could be felt both below the left lobe of the liver and behind the symphysis, and the diagnosis of multiple echinococci cysts was made some days later, when some

vesicles were found in the evacuation from his bowels. After a very thorough evacuation of the bowels another tumor was made out rising from the pelvis and projecting behind the symphysis. This was felt by rectum and filled the whole pelvis. On opening the peritonæum a large cystic tumor was seen rising from behind the symphysis. On introducing the hand into the abdomen a second very movable tumor was felt, which proved to be a cyst of the omentum of the size of a goose egg. This was extirpated by removing the neighboring omentum, and then another cystic tumor in the left lobe of the liver became evident. The peritonæum and skin over the lower cyst were then united and the cyst fastened in the wound, which was then lightly tamponed with gauze and another incision was made through the abdomen over the liver cyst, and this was treated in the same way as the first. After eight days the cysts were opened and the limpid contents (with numerous daughter cysts) having been evacuated, the sac was removed in toto from both cavities and both wounds were thoroughly drained. Both wounds cicatrized properly.

There was in both these cases a number of large and fully isolated cysts developed in various places or in different organs of the abdomen. This multiple inoculation may be explained by absorption by the vena portæ of the organism from the intestine; about one-half of all human echinococci are found in the liver. Another mode of admission is through the lymph channels, and the embryo passes hence through the ductus thoracicus and the jugular vein into the right heart, from where it may go to set up a primary echinococcus of the lung. It may also be carried on into the left heart and from there be spread broadcast through the whole body. When the echinococci stop in the mesenteric glands they either develop a mesenteric echinococcus or a primary peritonæal echinococcus through the communication of the lymph vessels with the peritonæum. Many cases of the spontaneous rupture of the cyst following traumatism with general infection of cysts over the whole peritonæum having been reported, it is generally considered better surgery to do a laparotomy than to make a diagnostic puncture of the cyst.

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