

HYDROPS OF THE GALLBLADDER IN AN INFANT*

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Gallbladder diseases are rare in childhood. Among these, acute hydrops of the gallbladder is a particularly rare and distinct entity¹⁻⁹. It is characterized by massive distention of the gallbladder without calculi, congenital malformation of the ductal systems or cholecystitis.

In this paper, a case of hydrops of the gallbladder is presented and the possible etiological factors, clinical findings and methods of treatment of the disorder are discussed.

Case Report

A nine-month-old male infant was admitted to Hacettepe Children's Hospital with a fever of two weeks duration, abdominal pain, irritability and occasional vomiting. On physical examination the temperature was found to be 38.2 °C. The infant weighed 6.000 grams and was in a poorly-nourished state. The liver was palpable 2 cm below the costal margin and a 3 x 4 cm tender mass was found in the right upper quadrant. No other pathological findings were discovered.

The white blood cell count was 4200/mm³ and the hemoglobin level was 6.75 g/dl with marked hypochromia on the peripheral blood smear. The urinalysis was normal. The serum electrolytes, BUN, SGOT, SGPT, alkaline phosphatase, uric acid, and creatinine were within normal limits. The total serum bilirubin level was 0.8 mg/dl with a direct fraction of 0.4 mg/dl. The plain abdominal and chest roentgenograms and intravenous pyelography showed no abnormality. An abdominal ultrasonography demonstrated hydrops of the gallbladder without calculi (Fig. 1). Three days later, repeated ultrasonography showed no change in the size of the gallbladder. Because of this finding and the perseverance of abdominal tenderness, an exploratory laparotomy was performed. At surgery, a markedly distended gallbladder was encountered with no inflammation (Fig. 2).

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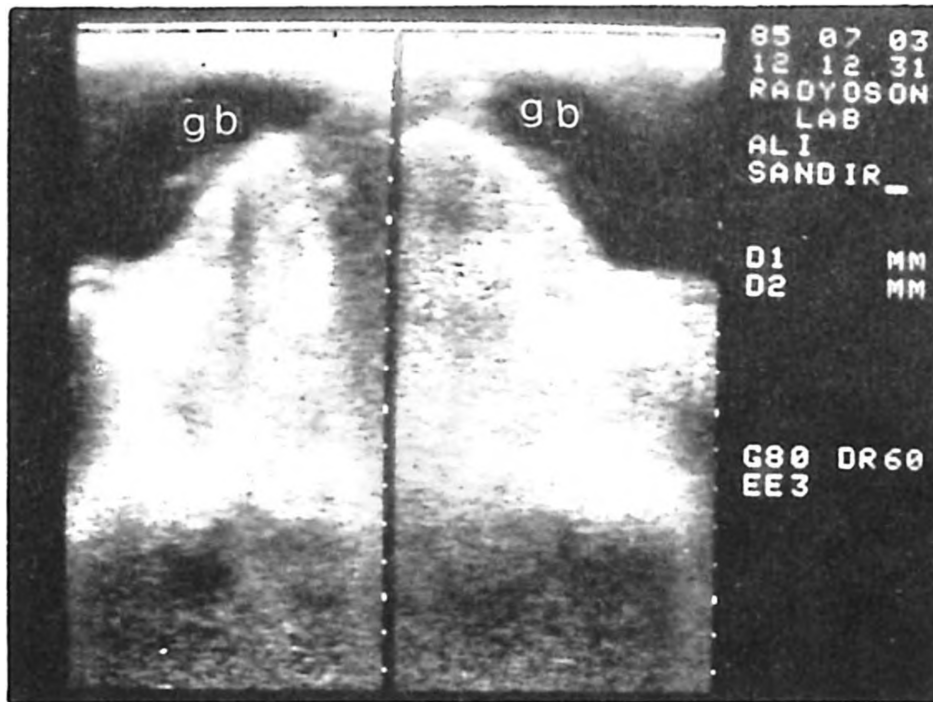


Fig. 1: Abdominal ultrasonography showing hydrops of the gallbladder (gb: gallbladder).

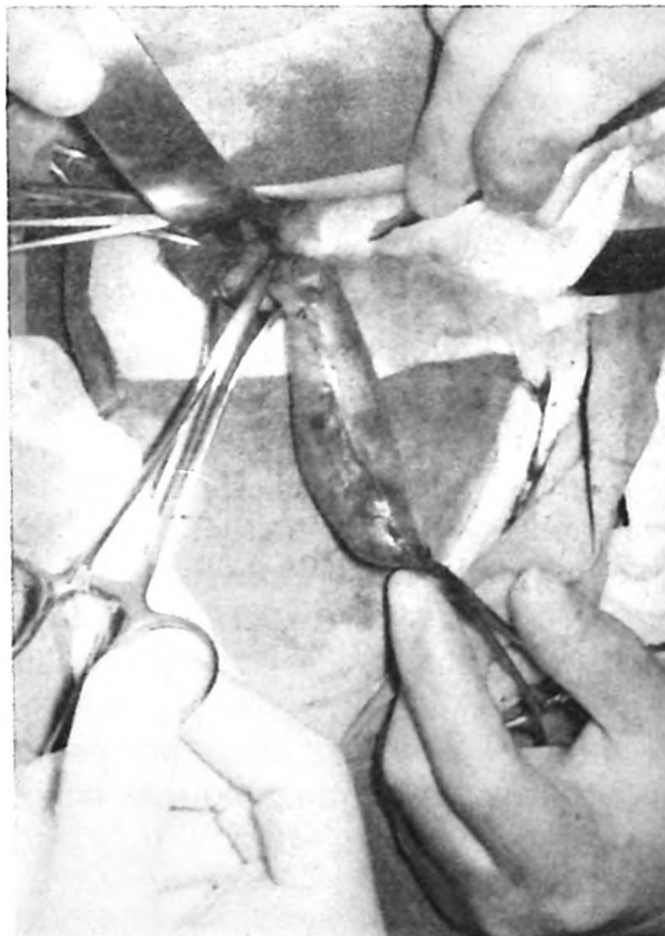


Fig. 2: Operative appearance of the gallbladder. Note the marked protrusion of the hydropic gallbladder from the wound.

Since it was not possible to empty the gallbladder by manual compression, cholecystectomy was carried out. The gallbladder was full of clear, noninfected mucoid fluid and there were no stones. The hepatic bile ducts and common bile duct were found to be normal. No bacteria grew from the bile culture. Histopathological examination revealed minimal inflammation. The baby did well and was discharged on the seventh postoperative day completely recovered.

Discussion

Hydrops of the gallbladder is a rare pediatric disorder and was first described in 1933¹. Approximately 75 such cases have been reported since that time⁹. The ages of the children have varied from newborn to 15 years^{5,8}. Boys are more commonly affected than girls. The descriptive features of the disorder are the presence of a massively distended gallbladder in the absence of biliary stones, congenital ductal malformations, bacteria or major inflammation. These features distinguish the disease from calculous or acalculous cholecystitis^{3,10}.

The presenting symptoms of acute hydrops are abdominal pain, fever, nausea and vomiting. Frequently, a right upper quadrant tenderness and/or mass are found on physical examination⁹.

Although the exact cause of the distention is unknown, hydrops of the gallbladder has been reported to follow infection elsewhere in the body, including otitis media, upper respiratory tract infection, gastroenteritis and sepsis⁷. Prolonged biliary stasis secondary to fever and dehydration may lead to distention and this was the most probable cause in our patient. The bile is frequently sterile. It has also been reported in some disease entities like mucocutaneous lymph node syndrome and familial Mediterranean fever⁶. Additionally, associated mesenteric lymphadenitis has been noted in many cases at exploration⁹. The obstruction of the cystic duct may be related to compression of these enlarged lymph nodes.

Liver function tests and cholangiograms are usually not informative. Since it is a fluid-filled structure, in a case of hydrops, the gallbladder is easily identified by ultrasonography, as a large, cystic, echo-free mass⁵. This was so in our case. Before the clinical use of this technique, the correct diagnosis was made only three times in 29 cases and the most common diagnostic considerations were appendicitis and intussusception³.

The treatment of hydrops of the gallbladder is controversial; it varies from doing nothing to simple aspiration, cholecystostomy and cholecystectomy⁹. Massive distention of the gallbladder contributes to the natural sharp angulation of the cystic duct and may cause further obstruction to bile flow². Once the distention has disappeared, the cystic duct is straightened and free bile drainage becomes possible. This explains the usefulness of methods other than cholecystectomy.

However, in some instances the obstruction may not be reversible and a cholecystectomy may be necessary as in the present case.

Summary

A nine-month-old male infant, with hydrops of the gallbladder is presented in this report. The diagnosis was made preoperatively by means of ultrasonography and a cholecystectomy was performed without any complication. A brief evaluation of the clinical findings and treatment methods of the disorder is made.

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