MASSIVE HYDRONEPHROSIS DIAGNOSED AS ASCITES

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Any kidney harbouring 1000 cc or more of fluid is considered as massive hydronephrosis (Hoffman, 1948; Papin — quoted by Stirling) in his treatise used the term gigantic for those hydronephroses which fill a large part of the abdomen. The case that we are reporting fits into the above definitions. A review of the literature shows that this condition has been reported on several occasions by different people (Cornwell 1946; Dennehy 1953; Earlam 1950; Hancock et al 1954; Hoffman 1948; Stirling 1939; Weil et al 1962; Wilder et al 1935; Toweres et al 1964). This case is also reported in order to emphasize the possibility of massive hydronephrosis in all instances of ascites of obscure origin.

CASE REPORT

This Chinese male patient aged 31 was first seen on 31st March 1964 with the complaints of low backache, for which he was being treated in the Orthopaedic Department, and gradually increasing swelling of abdomen for a period of five months. A sudden increase in the size of the abdominal swelling made him seek admission to hospital. There were no other complaints related to his abdominal swelling and there was no history of trauma to his abdomen, though during the second world war his left leg was injured by a bomb and had to be amputated. His bowel and micturition habits were normal. He is a non-alcoholic. While he was being investigated as an outpatient, diuretics were given him but to no avail.

On his second visit on 16th April, 1964, his abdomen became more distended and he looked more sick. He was then admitted to the hospital.

On examination he was not anaemic, not oedematous in the periphery and there were no peripheral signs of liver cirrhosis. However, he looked wasted and sick. There was no jaundice. The main findings were in the abdomen which was markedly distended. Liver, spleen, kidneys or any other mass could not be palpated but fluid thrill could be elicited.

Investigations revealed that the haemoglobin was 94%, total white 8,000 with normal differential count, E.S.R. 10, blood cholesterol 135 mgm%, serum potassium 4 mEq/litre, sodium 129 mEq/litre, chloride 104 mEq/litre, serum protein by electrophoresis albumen 4.6 gm%, alpha globulin 0.2 gm%, alpha 2 globulin 0.7gm%, gamma globulin 2.0 gm %, other liver function tests normal and blood urea 24 gm%. Urine showed no albumen, sugar or casts but following the abdominal paracentesis some red blood cells and pus cells were seen in the urine under the microscope. X-ray of chest showed high diaphragm but was otherwise normal, abdominal X-ray showed dense abdomen with no soft tissue seen and barium meal was also normal.

In view of the normal laboratory findings, an abdominal paracentesis was done. On the first occasion 4,200 ml of fluid was withdrawn, after which the abdomen became smaller and yet no mass was palpable. After a few days the fluid reaccumulated and abdominal paracentesis was repeated. This time 5,000 ml. of chocolate coloured fluid was withdrawn. The fluid was sterile and there were no malignant cells seen in the smear. Analysis of the fluid revealed the following results:-

Bilirubin	0.2 mg%
Potassium	0.6 mEq/litre
Sodium	92 mEq/litre
Chloride	87 mEq/litre
Total protein	2.1 gm%

As the diagnosis was still in doubt, an exploratory laparotomy was done on 12th May 1964, through a right paramedian incision and a giant left hyronephrosis was found occupying the whole of the left half of the abdomen, displacing the stomach, small intestine and colon down to the recto-sigmoid junction over to the right. The kidney extended from the diaphragm to the pelvic brim, from the loin to slightly to the right of the midline and from

the anterior to the posterior abdominal wall. 6,500 cc of urine were aspirated from the mass. The ureter was plastered on the antero-lateral surface of the hydronephrosis but the pelviureteric junction could not be defined. The renal vessels were long and narrow and some kidney tissue could be palpated at the superolateral pole. The lower pole of the hydronephrosis was adherent to the anterior abdominal wall in the midline where the abdominal paracenteses had been carried out. After emptying the sac, total nephrectomy was done. The post-operative course was uneventful and the patient was able to return to work by 8th June 1964. Pathology: A large hydronephrotic kidney with some compressed kidney tissue measuring 15 x 12 x 6 cm. The lining of the sac was smooth except for some haemorrhagic areas. Microscopically, the sections confirmed hydronephrosis with mild pyelonephritis in the renal parenchyma.

COMMENTS

The largest hydronephrosis on record is that reported by Glas (quoted by Papin). In this case there were 6 litres of fluid. It is rare for a hydronephrosis to reach such a size, because stagnant urine in the hydronephrotic kidney usually becomes infected sooner or later and this infection leads to inflammatory changes in the renal parenchyma, thus preventing further expansion of the sac, large hydronephrosis often notoriously presents with hardly any symptom, as in this case. According to Weil et al (1962) eight months history of abdominal swelling is considered the shortest period on record. In this case we have only five months' history of abdominal swelling and this can be considered the shortest on record so far. It might at first glance appear hardly conceivable that abdominal tapping is being done for hydronephrosis in the belief that it is being done for ascites. but this mistake has been repeatedly reported by Cornwell (1946), Earlam (1950) and Towers et al (1964). It is for this reason that it should be emphasized that in an obscure case of ascites, hydronephrosis should be considered. It is important to try to make the correct diagnosis because abdominal paracentesis might be followed by infection and even a shock as reported by Dennehy (1953), Hancock et al (1954). Furthermore it makes the operation easier if the diagnosis is made preoperatively. We are fortunate that in this case there was neither infection nor shock following the abdominal paracentesis. Surgery in this type of case has always been satisfactory as shown not only in this case but also in those reported by others.

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