A Case of Choledochoascariasis

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Introduction:

Ascaris lumbricoides are the normal inhabitants of human small intestines. Derrick and Brown (1958) and De Sa (1960) quoted that the complications caused by roundworms are due to its (a) lytic secretions (b) perforation of the viscera due to the nibbling action of the oral labia (c) spread of infection due to the migratory habits and (d) mechanical blockage of the organ due to their presence. Due to its migratory habit, a roundworm can find its way through patulous sphincter of oddi into the common bile duct causing obstructive jaundice. A serious consideration is to be given by surgeons practicing in the tropical countries where roundworm infestation of the intestines are rampant, about avoiding the primary closure of the common bile duct following its exploration as advocated by Mallet Guis (1951). Following dilatation of the sphincter of oddi of sphincterotomy the sphincter remains patulous for a few days when a roundworm can negotiate its way into the common bile duct demanding reoperation for its extraction.

Case Records:

Mrs. H. K. S., 36 years was admitted in the Bir Hospital on the 15th of August, 1976 (Registration No. 3356/1976, discharged on the 15th of September, 1976), for the treatment of acute pain in the right upper quadrant of the abdomen, jaundice and fever since last six

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days. The patient felt acute colicky pain in the right upper part of the abdomen, referred to the tip of the right shoulder and the right infraspinular region. Three days after the onset of pain the jaundice was noticed. She was also running temperature appearing with chill and rigor and settling with profuse sweating since last three days. She was complaining of loss of appetite, vomiting and scanty dark coloured urine.

The patient was known to have been suffering from chronic cholecystitis since last six years, during which she had four episodes of acute cholecystitis, treated on conservative regime. The oral cholecystography performed on two occasions confirmed the presence of multiple stones in the sluggishly functioning gall bladder.

Married, four children, all living and healthy, housewife by profession. On clinical examination: the patient is fairly built, not anaemic, jaundice +++, temperature 101.2 F, Pulse 106 p.m., B. P. 108/72 mm of Hg, Liver just palpable, tender; gall bladder palpable and tender.

Investigations:

Blood: Hb 11 Cm./%, Total W. B. C. Count 8,600 / Cmm of Blood, Poly-82/%, Lympho-16/%, Eosinophil-2/%, ESR 28 mm/hr., Blood sugar 86 mg/100 ml of blood, Urca-28 mg/100 ml of blood, Serum bilirubin-18 mg (direct) and 12 mg (indirect). Alkaline phosphate 55 K.A. units/litre. URINE Examination-bile salts and pigments present, Culture sterile. STOOL-coloured, Ova of ascaris lumbricoïdes (both fertilised and unfertilised). Plain X-Ray abdomen showed evidences of enlarged liver. Intravenous cholangiography was not carried out.

Treatment:

The patient received 12½ % Glucose, Vitamin K, B. Complex and Ampicillin parenterally, with antispasmodics as and when needed. The temperature settled down to normal on the third day of admission, urinary output improved, patient started feeling much better but the jaundice was getting deeper. An ounce of piprazine citrate was given when she expelled few roundworms. The liver function tests were repeated on 19th of August, 1976, which revealed that the serum bilirubin had risen to 24 mg (direct) and 18 mg (indirect) /100 ml of blood, serum alkaline phosphatase rose to 80 K.A. units/litre. On 20th of August, 1976, Cholecystectomy and Choledocholithotomy with T tube drainage of the common bile duct was performed. The Liver enlarged; hence a piece was removed for biopsy. The small intestine still contained few roundworms. The common bile contained white bile. During the post operative period the patient continued to received ampicillin, fluid, electrolytic balance and nutrition was maintained. The nasogastric
tube and the drainage tube in the subhepatic region was removed on the 3rd post operative day. The oral fluids were allowed from the 3rd day onwards. The T tube drained white bile for six hours, which turned to yellow and green subsequently.

On the sixth post-operative day, the patient complained of acute pain in the upper part of abdomen; needing pethidines and atropine for its relief. The T tube which was draining very little started pouring profusely. The patient was comfortable subsequently but went on pouring through the T tube. The T tube was clamped on the 9th post operative day, when the patient complained of severe epigastric discomfort demanding immediate release of the clamp.

On release of the clamp plenty of bile drained through the T tube. A T tube cholangiography was performed on the 30th of August '76, which showed a fusiform filling defect in the lower part of the common bile duct. The dye, however, passed freely into the duodenum Fig. 1. No logical explanation could be given for the filling defect; which was not there during operative cholangiography.

The T tube cholangiography was again reported on the 2nd of November, 1976 after flushing the common bile duct with 200 ml of normal saline, which shows the fusiform defect was still occupying the whole of the lower part of the common bile duct. The dye passed freely into the duodenum. (Fig. 2)

Fig. 1. T tube cholangiography showing filling defect in the lower part of the common bile duct.

Fig. 2. T tube cholangiography showing the filling defect in the whole of the lower part of the CBD.

Apperently, the fusiform filling defect is a migratory structure, which is gradually ascending up into the common bile duct; and could be a living ascarilumoides, lying half in the common bile duct and half in the duodenum. In the absence of Fibroendoscopy, to confirm the diagnosis and help in its removal, the patient was prescribed an ounce of pipazine citrate daily by mouth. On the 20 post operative day (the patient had received 3 oz. of pipazine citrate), she expelled a 13 inches long roundworm (half of its body bile stained and half pink). The clamping of the T tube did not produce any symptom nor was there a gush of bile following the release of the clamp.

The T tube cholangiography was repeated on the 22nd post-operative day i.e., 13th of September 76, which revealed normal cholangiogram with no filling defect. The dye passed freely into the duodenum.

Fig. No.3

The T tube was removed on the 22nd post operative day. The liver function test performed on the 23rd post operative day showed values within normal limits. Biopsy of the liver showed pericholangitis and bile stasis suggesting extra hepatic obstruction. She was discharged cured on the 15th of September, 1976.

Discussion:

In our hospital it is usual to find intestines free of roundworms during laparotomies. Hence routine dewarming has been our procedure for the planned surgery. Ascaris lumbricoides are known to precipitate acute abdominal emergencies e.g. intestinal obstruction, intestinal perforation, acute appendicitis, cholecystitis, intestinal or biliary fistula, obstructive jaundice etc. The author (A. K. S. 1965), has reported 41 cases of surgical emergencies caused by roundworms. In yet another experience, a patient went on discharging bile through the tract of T tube (after removal) until a living roundworm came out of the opening and the discharge of the bile stopped.

Hameed Ud-deen Ahmed agrees that the ascaris lumbricoides can pass into the common bile duct through patulous Sphincter of Oddi following recent passage of stone or after explor-
common bile duct. The ascaris lumbricoides are known to produce obstructive cholangitis, cholecystitis (Yang and Laube 1946), Pancreatitis (Gilbert 1964) or abscess (Peay 1964). Batella in 1964 reported a case of obstructive cholecystitis and cholecystectomy due to blockage of cystic duct. Dr. Gongal (1973) reports a similar case of obstructive jaundice due to ascaris in the common bile duct. In our hospitals (in tropical countries) where the loadings of roundworms, drainage of the common bile duct after its exploration is desirable and has been a routine procedure. The advocates of the primary closure of the common bile duct after exploration (Mallet Guy 1951) will not have a comfortable sleep in the world. I always like to put a T tube in the common bile duct, because the part of our patients contain roundworms which can migrate, into the biliary tree through the sphincter of Oddi. In cases where T tube drainage has been omitted, pain during the postoperative period due to migration of foreign body in the common bile duct may be passed causing severe morbidity to the patient. The diagnosis may remain obscure. The diagnosis and extraction of the worm could have been easier by fibroduodenoscopic examination in the absence of the fibroendoscopes the radiological evidence that the filling gas ascending in the common bile duct (as shown by serial T tube cholangiogram done 76 & 2.9.1976) suggested that it could be a roundworm. The extraction of the worm was another problem. We were hesitant to flush the common bile duct with citrate. Flushing with the normal saline followed by T tube cholangiography did not silence the patient was being prepared for another operation. In the meantime, the worm was given an ounce of pipazine citrate everyday at bedtime. Fortunately, the patient was fully alert the worm (half staine green and half pink) of the 20th post operative day. The T tube cholangiography repeated on the 22nd post operative day revealed normal cholangiogram with no filling defect. Otherwise another operation was essential to remove the filling defect; the worm.

Conclusion:

A case of obstructive jaundice due to stone in the common bile duct was operated upon. The T tube cholangiogram confirmed the presence of roundworm in the lower of common bile. Expulsion of roundworm was helped by oral administration of pipazine citrate.
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