A CASE OF ROUND WORM IN GALL BLADDER

With reveiew of the literature

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Introductions:-

Acute cholecystitis induced by the worms namely, round worm and flat worms in rare (Power et al 1930, Adam 1935, Chem. 1943, Acharya et al 1967) though the diseases of the hepato-biliary system caused by them are not infrequently encountered in tropical countries.

Parasitic biliary Calculi are rare in Europe but they are not very uncommon in South East Asia (Teoh 1963; Robinson 1966).

Early surgical treatment for acute cholecystitis in these areas should be seriously considered specially when the round worms are vomited or passed rectally or the eggs are detected in the stool.

Case Note:-

A Lady of 50 years, In-patient No 3161/1968 Bir Hospital was admitted on 8/7/1968 at 4.5p.m. by E. M. O. as a probable case of intestinal obstruction with the history of diffuse abdominal pain vomiting and constipation for three days.

On Examination patient was fully conscious but restless and had moist tongue with regular pulse rate of 100 p m., temperature 99 F, B. P 100/70 mmHg. She was non icteric. No lymphadenopathy was present J.V.D. was not raised. Her chest was clear She had slightly distended abdomen and on lump was palpable. On direct questioning she did not

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admit to have passed or vomitted any round worms in the past week. Investigation did not reveal any abnormality.

Intramuscular atrophine 1/100 gr I.M. given on admission was without any beneficial effect. She was put on Ryles tube suction with infusion of intravenous fluid in the afternoon and evening, and was prepared for exploratory laparotomy. Under general, anaesthesia while palpating abdomen a lump was felt in right hypochondrium suggesting enlargement of gall bladder. But as the patient was already anaesthetised laparotomy was decided on. Abdomen was opened by right paramedial incision, gall bladder was normal in colour but distended with a worm in it. Cystic duct was dilated; common bile duct was of normal size and nothing was felt inside it. There were few round worms in the small intestine. Other organs in the abdomen were otherwise normal. Cholecystectomy was performed and abdomen closed in layers with corrugated rubber drainage. On opening gall bladder, it was found to contain a live adult worm. Post-operative period was uneventful without any antibiotic. She was discharged on 9th day of admission. She did not have any complaint in follow-up examination except she passed the round worms in stool after a dose of piperazine.

Discussion:-

Apart from echinococcus, two parasites may produce disorder of the biliary tract in man which require surgical treatment viz. i) Clonorchiasis the liver fluke which inhabits in biliary system of man and ii) Ascaris Lumbricoides, whose domain extends from stomach to ileo-caecal valve where it lives in the majority of the people without causing symptoms, occasionally invades the biliary tracts.

Dermick and Brorson (1958) quoted Aviles as having stated that the round worm pathogenicity depended upon three characteristics. i) a poisonous material found in the extract of the worms ii) infection disseminated by the migratory habits, iii) Mechanical obstruction of organs and viscera.

The reported complications of biliary ascariasis (Wright 1963) are i) acute cholangitis - commonest ii) liver abscess iii) cholecystitis with or without ascariasis in the Gall Bladder iv) perforating of common or hepatic ducts and Gall Bladder resulting biliary peritonitis v) Cholelithiasis vi) Ascariasis in the pancreatic duct with acute pancreatitis vii) Hepatitis. It has also been shown to produce cholelithiasis (Yasuda M. 1955; Teoh Tian Bee 1963) Cholangio-hepatitis occurs in recurrent attack due to intrahepatic and extrahepatic stones usually with obstructive jaundice and is prevalent amongst the Chinese community in Hong Kong and the natives of South East Asia (Robinson 1966). He mentioned that it was first

recognised by Digby (193), later by Cook Hon Ho and Mac Fadzean (1954) and by Stock and Tinckler (1955). J. Cook et al considered suppurative Cholangitis as the usual precursor of intrahepatic stones formation. But Harrison Levy (1961) believed that the primary seat of the lesion is extrahepatic duct system with secondary effect on gall bladder and liver in contrast to cholecystitis and nonparasitic lithiasis in Europeans (Robinson). Only 8 cases of parasitic biliary calculi had been reported till 1965 in Europeans (A. I. Munro). Teoh quotes, Cook et al who stated parasitic stones in the biliary tract composed mainly (88-98%) of bilirubin. Yasdua did not find any parasitic elements in cholesterol stone while parasitic elements were found in the bilirubin chalk stones in 35. Askura (1958) states that the eggs and the cuticle of the worms may form the nuclei of gall bladder stones, the albuminoid covering becoming the basis of precipitation of calcium compounds. T. Assumi (1956) also observed the precipitation of calcium of round worm eggs introduced into the bile passage of dog which were subjected in the bile passage of dog which were subjected to stasis.

Ascariasis *Lumbricoides* are known to have a propensity to enter small orifices (Stiles 1921; Wright 1963) and its ability to perforate intestinal suture is well known. They are also not known to enter biliary tract post-operatively (Eberles 1921; Lou Chuci Chu 1963; Strauszer et al 1955). They are known to cause acute pancreatitis due to impaction of ascariasis in the ampulla of Vater (Chin 1933; R Kirk 1958; pancreatic abscess with obstruction of pancreatic duct (Watner et al 1961 and secondary purulent pericarditis (Joshi et al 1961) They are rarely known to lodge in the gall bladder.

Muir quotes Aviles as having collected 90 cases of ascariasis of the common bile duct from the literature upto 1918 (Young et al 1946). Thereafter numerous reports of ascariasis in the common bile duct and liver causing even hepatic abscess have been recorded. In 1928 Mortan found eight cases reported of gall bladder ascariasis while reporting his one case. (Young et al Adams 1935) reported a fatal case of hepatic duct rupture by an ascariasis *lumbricoides* causing bile peritonitis with 7 round worms in the Gall Bladder and also 10 in the right hepatic duct. Wang et al (1956) reported 7 cases of Cholecystitis in 141 cases of biliary ascariasis and in one of them gangrenous Gall Bladder had perforated forming liver abscess which in turn perforated diaphragm and drained viscerobrochus. Brayne W. F (1925) described a case who died shortly after operation; on autopsy, the Gall-bladder was greatly dilated. Power Wood (1930) reported a case of rupture empyema of the Gall-bladder associated with *Ascaris Lumbricoides*. Chen reported three subjects with ascariasis lying partly or completely in the Gallbladder as well as common bile duct out of 19 cases seen in three years. (Young et al) Muazyam M. G. et al (1960) described an anemic man with irregular fever and right up-

per abdominal pain with liver abscess caused by ascariasis. His common bile duct was full of worms; Large numbers were present in the hepatic duct and one was present in the Gall Bladder. Lately a case report of round worm perforation of Gall Bladder has been reported (G.V. Acharya et al 1967) Berles (1921) described a boy of 9 years who was explored for jaundice; he had three worms in the hepatic ducts and one in the gallbladder. He also reported 4 adults who had gall bladder stones and ascariasis in the gall bladder. Liu and Lee (1949) reported a patient with symptoms of acute cholecystitis in whom cholecystectomy was performed and inside the gall bladder was an adult round worm (Derrick and Brown 1958).

While describing a case of liver abscess caused by *ascaris lumbricoides* (Reay H.A. et al 1964) mentioned Crowel (1920) from Brazil and DeSilva (1960) from Singapore describing such cases in review of necropsy material. Liver abscess due to *ascaris lumbricoides* is not very uncommon (Rajahram 1938; Mauzzam 1960) Joshi et al Berozi Rivas 1967; Lernas J. R. et al 1962)

In South East Asian Countries including Kathmandu Valley where *ascaris* is regarded as a common intestinal worm preoperative diagnosis of Biliary ascariasis has until now remained presumptive even though a radiological method has been described (Lou Chuchin 1963) Vomiting of the round worm and its ova in the stool are of course, important clues.

Very encouraging results have been obtained with cholecystectomy for acute cholecystitis (Payne 1969). Had conservative treatment been adopted in our case Gall bladder with the live round worm would have been perforated with resultant biliary peritonitis which has a mortality rate of 50% (Ellis et al 1960). But stressed the need of Cholecystectomy while operating for the common bile duct ascariasis as recurrence may occur with the ova left in Gall bladder (Derrick and Brown 1958).

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