Volume : 4 | Issue : 10 | October 2015 • ISSN No 2277 - 8179

Research Paper

Cholesysto Ascariasis- Experience from a Tertiary Care Hospital in Eastern India

Medical Science

KEYWORDS : *Ascaris lumbricoides*, Cholecysto ascariasis, , *biliary colic,Cholecystectomy.*

Dr. Md Mazharul Haque — MS (General Surgery),Associate Professor, Department of surgery, Katihar Medical College, Katihar, Bihar, India. *Corresponding author

Dr. Sandeep Kumar Jaiswal — MS (General Surgery), Senior Resident, Department of surgery, Katihar Medical College, Katihar, Bihar, India

ABSTRACT

Cholecysto Ascariasis ie. presence of Ascaris lumbricoides in the gall bladder - a form of Hepatobiliary ascariasis is commonly reported from highly endemic regions like south asia, south America, parts of Middle East and Africa1. In humans, the usual habitat of Ascaris lumbricoides is the proximal small intestine2. When the worm load is high, then the worms tend to migrate from the usual site and invade the biliary system like CBD, Hepatic ducts, Cystic duct, Gall Bladder, IHBRs etc3.

Material & Methods: *Patients attending the department of general surgery, Katihar Medical College hospital with the diagnosis of Cholesysto Ascariasis were included in the study.*

Results: *Some cases of Cholesysto Ascariasis can be managed conservatively. The worm some time retreats to the intestine but many cases require surgical intervention.*

Conclusion: *Cholecysto ascariasis may present with biliary colic or with various complications like acute cholecystitis, cholangitis, gangrenous gall bladder, perforation of gall bladder etc. Sonography has been shown to have a high diagnostic accuracy in the diagnosis of Cholesysto Ascariasis. Some of the cases can usually be managed conservatively but many cases require surgical intervention.*

Introduction

Ascariasis is endemic in eastern India and is mostly seen in tropical and sub tropical countries because of warm and humid climate where the soil is wet and favourable to the development of the ascaris larvae and poor sanitary conditions which maintain the infection cycle[1].

Normally the adult worms inhabit the proximal part of small intestine, mostly the jejunum without causing any symptoms[2]. But when aggregated into masses, the worms may produce intestinal obstruction, volvulus or intussusceptions; some time the worms migrate into bile duct and either through it or through a cholecysto duodenal fistula to the gall bladder[2]. Ascarids have a great tendency to explore small openings. When in the duodenum, they may enter the ampullary orifice and advance into the bile and hepatic ducts, and into the gall bladder causing cholecysto ascariasis[4]. Cholecysto ascariasis is more commonly seen in women than in men (female to male ratio of 6:1) with the mean age of occurrence being around 30 years (range:4-70 years). Pregnant women are more prone to develop biliary ascariasis, likely because of high levels of hormones like progesterone and estrogen.

All the patients included in this study presented in the emergency with acute upper abdominal colicky pain. In endemic areas, biliary ascariasis is a frequent diagnosis of upper abdominal pain and the possibility of biliary ascariasis and Cholecysto ascariasis in particular should be kept in mind.

Materials and Methods:

A total of 22 patients (19 females and 03males) with Cholecysto ascariasis were studied over a period of 3 years in Katihar Medical College,Katihar ,Bihar, India. All patients presented with acute upper abdominal pain. The patients' age ranged from 5 years to 64 years belonging to the kosi region of Bihar,India. Age distribution of patients is shown in table 1. One patient was pregnant. Thorough history taking and clinical assessment was performed in all the patients(Table 2). Previous history of surgery or endoscopy to the gastrointestinal tract was noted. Complete blood count, liver function tests, serum amylase and lipase, chest x-ray and abdominal x-ray with ultrasonography of the whole abdomen were done in all the patients and repeated as and when required.



Figure 1 showing round worm in gall bladder

All the patients were initially managed conservatively with IV fluids, IV antibiotics, analgesics and IV antispasmodics. Patients were not dewormed in the beginning of therapy and deworming was reserved for a later date when the serial ultrasonography showed the biliary tree free of ascarids or a decision was taken in favour of operative management. Conservatie treatment was continued for four days. At the end of four days USG was repeated. If the biliary tree was found free of ascarids, the patients were discharged. If the gall bladder still showed the worms, Cholecystectomy was planned. Serial ultrasonography was performed to check for recurrence during follow- up. The patients were dewormed at 3- monthly interval.

Results:

In this study, Cholecysto ascariasis was found to be more common in females (86.36%) (Table 1). The clinical signs and symptoms of the patients are given in Table 2. The most common presenting symptom was upper abdomen pain which was colicky in nature. The total leucocyte count was raised in eight patients, serum bilirubin was raised in two patients and alkaline phosphatase in two patients. In this study a total number of seven cases out of twenty two responded to medical treatment where as fifteen required operartive management in the form of cholecystectomy (Table 4).

Volume : 4 | Issue : 10 | October 2015 • ISSN No 2277 - 8179

1. Age distribution:

Age range	No of male patients	No of female patients	Total no of patients
<10	0	3	3
10- 20	1	2	3
21-30	0	4	4
31-40	0	4	4
41-50	1	3	4
51-60	1	2	3
61-70	0	1	1

Table 2:Clinical presentations

Symptoms/signs	No ofpatients=22	Percentage
Pain right upper quadrant of abdomen	22	100
Biliary colic	16	72.72
Nausea and vomiting	18	81.81
Vomiting of worms	04	18.18
Fever	13	59.09
Right upper quadrant tenderness	21	95.45
Jaundice	02	09.09

Table 3: Complications

Complications	No of patients	Percentage
Obstructive jaundice	02	09.09
Cholangitis	02	09.09
Acute Pancreatitis	0	00
Acute Cholecystitis	01	04.54

Discussion:

In the present study, biliary ascariasis was more commonly seen in the middle aged females with all presenting with acute biliary symptoms. Symptoms of biliary colic occur when the worm migrates across the papilla. If the worm remains in the bile duct and gall bladder, acute and chronic complications can occur like cholangitis, strictures, calculi, cholecystitis, perforation of gall bladder, gangrenous cholecystitis and pancreatitis etc[7]. After entering the bile duct, the worms excrete various types of polypeptides that produce allergic manifestations and cause spasm of the sphincter of Oddi by acting as chemical irritants[2]. The resultant biliary stasis together with infected intestinal contents carried by the worms leads to pyogenic cholangitis, cholecystitis and pancreatitis[7] . Biliary obstruction lasts only as long as a live worm remains in the biliary tree; the majority of worms retreat into the duodenum[8]. In contrast to the worms in the biliary ducts, the worms of the gall bladder do not retreat into the duodenum easily because of the anatomy of the cystic duct and the gall bladder neck. Mainstay of diagnosis is ultra sonography[3] which usually shows the worm in the form of Inner tube sign (round worm is seen as a thick echogenic stripe with a central anechoic tube in the gall bladder, stripe sign (thin non shadowing stripe without an inner tube within the gall bladder). The mobility of the worm within the gall bladder unequivocally confirms the diagnosis. Magnetic resonance cholangio pancreatography (MRCP) may be used as another non invasive test in cases presenting with jaundice, cholangitis, pancreatitis that are not diagnosed on ultrasonography.

Approaches available for the management of cholecysto ascariasis are medical management and surgical intervention[6]. Initially the patients are managed medically for three to four days. By this time many patients become asymptomatic as the worms retreat into the duodenum. After this time period medical treatment is not much fruitful as complications may develop. If the patient fails to respond to medical treatment surgical intervention in the form of cholecystectomy is employed. In our study open cholecystectomy was done as in few cases part of the worm was in the cystic duct and in many cases peri cholecystic adhesion was anticipated.

Table 4. Case Wise Final Treatment modality

Case No	Age	Sex	Final Treatment Modality
1	05	Female	Surgical Treatment
2	30	Female	Medical Treatment
3	64	Female	Medical Treatment
4	04	Female	Surgical Treatment
5	26	Female	Surgical Treatment
6	37	Female	Medical Treatment
7	13	Female	Surgical Treatment
8	35	Female	Surgical Treatment
9	38	Female	Surgical Treatment
10	28	Female	Surgical Treatment
11	45	Male	Medical Treatment
12	48	Female	Surgical Treatment
13	29	Female	Medical Treatment
14	53	Female	Surgical Treatment
15	18	Female	Surgical Treatment
16	42	Female	Surgical Treatment
17	33	Female	Medical Treatment
18	56	Male	Surgical Treatment
19	08	Female	Surgical Treatment
20	47	Female	Medical Treatment
21	20	Male	Surgical Treatment
22	55	Female	Surgical Treatment

CONCLUSION

Biliary ascarisis and cholecysto ascariasis in particular should be considered as a differential diagnosis of acute biliary symptoms especially in endemic areas. Ultrasonography is a useful non invasive test with a high diagnostic accuracy. Medical management should be the preferred initial treatment modality and surgical treatment should be reserved for cases who do not respond to it.

CONSENT

No special consent was taken as the treatment given was in accordance with the current treatment practices in the unit.

ETHICAL APPROVAL

No prior ethical approval was taken as no experimental drug or procedure was carried out in the management of this condition as highlighted in the paper

REFERENCE

1. González AH, Regalado VC, Van den Ende J. Non-invasive management of Ascaris lumbricoides biliary tact migration:A prospective study in 69 patients from Ecuador. Trop Med Int Health. 2001;6(2):146-50. 2. Pawlowski ZS. Ascariasis. In Warren KS, Mahmoud AAF, et al editors. Tropical and Geographical Medicine, 2nd edition, New York, McGraw- Hill, 1990;369-378. 3.Schulaman A, Loxton AJ, Hegdenrych JJ, Abdulrahaman KE. Sonographic diagnosis of biliary ascariasis. AJR Am J Roentgenol 1982; 139:485-489. 4. Lloyd DA. Massive hepatobiliary ascariasisin childhood. Br J Surg 1981;68: 468-473. 5.Omar Javed Shah, Showkat Ali Zargar, Irfan Robbani. Biliary ascariasis: a review. World J Surg 2006; 30:1500-1506. 6.Chang CC, Han CT. Biliary ascariasis in childhood. A clinical analysis of 788 cases. Clin Med J 1966; 85:167. 7.Madhumita Mukhopadhyay. Biliary ascariasis in the Indian Subcontinent: a study of 42 cases. The Saudi Journal of Gastroenterology 2009;15(2): 121-124 8. Khan A, Bhowmik B, Hakim H, Islam M.Outcome of conservative management inbiliary ascariasis - a study of 98 cases. Journal of dhaka medical college; 2010. Accessed: 17 aug. 2014