

**THE CLINICAL PROGNOSIS AND MANAGEMENT BETWEEN BILIARY ASCARIASIS
AND CHOLELITHIASIS IN DISTRICT LEVEL HOSPITAL PATIENTS OF
BANGLADESH****Dr. Md. Morfudul Islam^{*1}, Dr. Mohammad Mahbulul Alam², Dr. Md. Faridul Islam³, Dr. Syed Mohammad Kamrul Hossain⁴, Dr. A. K. M. Mushfiq Haider⁵ and Dr. Monowar Hossain Talukder⁶**¹Asst. Professor, Department of Surgery, Abdul Malek Ukil Medical College & Hospital, Noakhali, Bangladesh.²Asst. Professor, Department of Paed-Surgery, Cumilla Medical College & Hospital, Cumilla, Bangladesh.³Registrar, Department of Ortho-Surgery, Abdul Malek Ukil Medical College & Hospital, Noakhali, Bangladesh.⁴Asst. Professor, Department of Surgery, Abdul Malek Ukil Medical College & Hospital, Noakhali, Bangladesh.⁵Asst. Professor, Department of Surgery, Abdul Malek Ukil Medical College & Hospital, Noakhali, Bangladesh.⁶Asst. Professor, Department of Anesthesia, Abdul Malek Ukil Medical College & Hospital, Noakhali, Bangladesh.***Corresponding Author: Dr. Md. Morfudul Islam**

Asst. Professor, Department of Surgery, Abdul Malek Ukil Medical College & Hospital, Noakhali, Bangladesh.

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ABSTRACT

Objective: In this study our main goal is to evaluate the clinical prognosis and management between biliary ascariasis and Cholelithiasis in patient of Bangladesh. **Method:** This cross-sectional observational study was carried out at tertiary medical college and hospital, Noakhali & district level hospital in Feni, Bangladesh. Where data were collected from 2013 to June 2018. A total of 227 patients where 145 patients clinically diagnosed for biliary ascariasis and 82 patients were cholecystitis due to gallstone disease. among them 74 underwent cholecystectomy for gallstone disease considered for the study population. Sample were collected through purposive sampling as per inclusion criteria. **Results:** During the study, most of the patients belong to 10-25 years age group- 82, followed by 56 patients belong to 25-40 years age group and 07 patients belong to >40 years. Where as in Cholelithiasis group most of the patients, 45 belong to 25-40 years age group followed by 23 patients belong to 10-25 years age group and 14 patients belong to >40 years age group. Also, most of the cases were female in both groups. In both group Pain in rt hypochondrium 100% and 60%, nausea 84% and 75%, vomiting 41% and 29%, fever 74% and 60% symptoms were common. In biliary ascariasis group 96% cases responded to conservative therapy where as in Cholelithiasis group 89% patients responded to conservative therapy. **Conclusion:** From our result we can conclude that, female was high risk of gallstone formation and biliary ascariasis. Further studies are needed for better outcome.

KEYWORDS: Biliary ascariasis, cholelithiasis, gallstone disease.**INTRODUCTION**

Ascariasis is one of the most common helminthic diseases in humans.^[1] It involves hundreds of millions of people in countries where the standards of public health and personal hygiene are low. The adult roundworm *Ascaris lumbricoides* usually lives in the intestinal lumen without any significant symptoms. However, when aggregated into masses they may cause intestinal obstruction, volvulus, or perforation of the bowel. They may also enter any accessible passage and cause local disturbances.^[2] *Ascaris* invasion into the biliary tree is known to cause biliary colic, recurrent pyogenic cholangitis, cholecystitis, and pancreatitis.^[3-4] There may be formation of biliary calculi that contain ova and fragments of adult worms.^[5] The diagnoses of the reported cases have been made either at laparotomy or at autopsy. The magnitude of the problem of biliary

ascariasis in an endemic area may be under- estimated in the reported cases, as the worms move actively into and out of the biliary tree from the duodenum and are usually not present in the ducts at the time of surgery.^[6-7]

In this study our main goal is to evaluate the clinical prognosis and management between biliary ascariasis and Cholelithiasis in patients of Bangladesh.

OBJECTIVE

- To assess the clinical prognosis and management between biliary ascariasis and Cholelithiasis in patients of Bangladesh.

METHODOLOGY**Types of study**

- It was a cross-sectional and observational study.

Place and period of the study

- The study place was carried out at Tertiary Medical College Hospital, Noakhali & district level hospital in Feni, Bangladesh. Where data were collected from 2013 to June 2018.

Study population

- A total of 227 patients where 145 patients clinically diagnosed for biliary ascariasis and 82 patients were cholelithiasis. Among them 74 underwent cholecystectomy for gallstone disease considered for the study population. Sample were collected through purposive sampling as per inclusion criteria.

Method

- Both qualitative and quantitative (Mixed Method) data were collected by using a pre designed questionnaire. The questionnaire was prepared

reviewing literature and consulting with medical research experts.

Data analysis

- All collected data were coding and input in SPSS-25 for further analysis. Both descriptive and inferential statistics done. Descriptive statistics included frequency distribution, percent, mean, standard deviation; graph, tables, figures and inferential statistics.

RESULT

In table-1 shows gender distribution of the patients where most of the cases were female in both groups. The following table is given below in detail:

Table-1: Gender distribution of the patients.

Gender	Biliary ascariasis, n	Cholelithiasis, n
Male	55	31
Female	90	51

In table-2 shows age distribution of the patients where in biliary ascariasis group, most of the patients belong to 10-25 years age group, 82 followed by 56 patients belong to 25-40 years age group and 07 patients belong to >40 years. Where as in Cholelithiasis group most of

the patients, 45 belong to 25-40 years age group followed by 23 patients belong to 10-25 years age group and 14 patients belong to >40 years age group. The following table is given below in detail:

Table-2: Age distribution of the patients.

	Age group		
	10-25 years	25-40 years	>40 years
Biliary ascariasis	82	56	07
Cholelithiasis	23	45	14

In table-3 shows Clinical presentation of study groups where in both group Pain in rt hypochondrium 100% and 60%, nausea 84% and 75%, vomiting 41% and 29%,

fever 74% and 60% symptoms were common. The following table is given below in detail:

Table-3: Clinical presentation of study groups.

Symptoms	Biliary ascariasis, %	Cholelithiasis, %
Pain in rt hypochondrium	100	60
Nausea	84	75
Vomiting	41	29
Fever	74	60
Rigor	13	10
Jaundice	8	5
Worm emesis	21	15

In table-4 shows Treatment protocol for study group where in biliary ascariasis group 96% cases responded to conservative therapy where as in Cholelithiasis group

10% patients responded to conservative therapy & 90% response to operative treatment. The following table is given below in detail:

Table-4: Treatment protocol for study group.

Treatment method	Biliary ascariasis, %	Cholelithiasis, %
Conservative	96	10
Operative	4	90

DISCUSSION

Biliary ascariasis is commonly reported from highly endemic regions like Bangladesh, India, Latin America, parts of the Middle East and Africa. In humans, the usual habitat of *A. Lumbricoides* is the small intestine. When the worm load is high, which may go up to a 1000 worms, the worms tend to migrate away from the usual site.^[7]

Women are more commonly affected than men. Recurrent worm invasion of the ducts has also been frequently observed in endemic regions. The diagnosis of biliary ascariasis usually depends on the demonstration of worms in the biliary tract by different imaging techniques. Sonography has been shown to have a high diagnostic accuracy as a noninvasive procedure in the diagnosis of biliary ascariasis.^[8]

Gallstones is predominantly of the pigment type, usually found in those with hematologic disorders and in those with a history of prolonged parenteral nutrition.^[9] They are formed due to supersaturation of bile with calcium bilirubin ate.^[9]

Patients typically present with jaundice and right upper quadrant pain.^[10] Several factors account for gallbladder stone formation. Biliary ascariasis is an uncommon but possible cause for gallstones. *Ascaris lumbricoides* is a giant roundworm prevalent in tropical countries such as the Philippines. It enters the human body as an infective egg that hatches into larvae within the small intestines.^[11] Being a visceral larval migrant, it can enter the common bile duct and remain in that area producing cholangitis, strictures, calculi, cholecystitis, pancreatitis, and liver abscesses.^[6] Almost all ascaris worms in the biliary system will return into the intestine, but those that remain will cause obstruction. Irritation caused by the worm or its excretions result in biliary colic and sphincter of Oddi spasm with partial biliary obstruction.^[7]

Ultrasound is a reliable and cost-effective modality for the screening of biliary ascariasis. The worms may appear as linear or curly echogenic structures in the biliary tracts, which may have characteristic movements if they are still alive.^[6] Other characteristic sonographic features include a long, linear, parallel echogenic strip, usually without acoustic shadowing, a bull's eye or spaghetti appearance, or an impacted-worm sign.^[7] There can also be gallbladder distension, oedema of the gallbladder wall and the presence of sludge.^[6] Stones that are found within the ducts are more consistent with those due to biliary ascariasis than with other aetiologies such as chronic haematologic, haemolytic and metabolic disorders.^[5]

More than 95% respond to conservative management as worms return spontaneously into the intestine. Anti-helminthic agents, which are routinely given to toddlers in the Philippines, are effective as prophylactic against

infestation and enhance return of worms into the gut.^[10] Complications are managed surgically or by ERCP. Biliary ascariasis producing gallstone is an uncommon occurrence. However, this should be considered in endemic regions and in patients without other probable causes of biliary stones.^[11]

CONCLUSION

From our result we can conclude that, female was high risk of gallstone formation and biliary ascariasis. Further studies are needed for better outcome.

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