

Clinical Profile of Hepatobiliary and Pancreatic Ascariasis

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Ascariasis

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ABSTRACT

Objective: To determine the clinical presentations of patients with hepatobiliary ascariasis

Study Design: Case series study

Place and Duration of Study: This study was conducted at the Department of Gastroenterology, Lady Reading Hospital, Peshawar from 1st October 2019 to 30th June 2020.

Materials and Methods: Eighteen patients of either gender, greater than 12 years of age and having ultrasonic evidence of hepatobiliary or pancreatic ascariasis were enrolled. Patients with hemodynamic instability or those who decline endoscopic retrograde cholangiopancreatography were excluded from this study. All patients were admitted to the ward. Necessary baseline investigations were carried out. Patients were treated symptomatically and endoscopic retrograde cholangiopancreatography was performed after taking consent. Worms were removed using snare and/or balloon.

Results: There were 6 (33.33%) males and 12 (66.66%) females. Majority of patients were between 21 to 30 years with mean age of 27.83±12.00 years. Epigastric pain was the most frequently occurring symptom present in all 18 (100%) patients, followed by vomiting in 12 (66.66%) patients. Obstructive jaundice was present in 10 (55.55%), anemia in 9(50%) patients, cholangitis in 6 (33.33%) patients and acute pancreatitis in 3 (16.66%) patients. Twelve (66.66%) patients were having single worms, 4 (22.22%) patients were two worms, 2 (11.11%) patients were multiple worms and maximum number of worms extracted was 10. Worms protruding from major papilla were seen in 9(50%), worms protruding from both major and minor papillae were seen in 1 (5.55%), seen fluoroscopically in 8 (44.44%) patients.

Conclusion: Hepatobiliary worms have not remained an uncommon entity in certain districts of KPK, affecting mainly young females, presenting with epigastric pain, vomiting and jaundices.

Key Words: Ascariasis, Jaundice, Epigastric pain, Endoscopic retrograde cholangiopancreatography (ERCP)

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INTRODUCTION

Ascaris lumbricoides is the commonest nematode causing human ascariasis¹ and 33% of the world population is estimated to be infested with it.² The first scientific description of the genus *Ascaris* was given by Linnaeus in 1758 followed a century later by Epstan and Grassi who showed that the infection is preceded by ingestion of eggs.

Ascaris is found mainly in tropical countries having low standards of hygiene, malnutrition, heavy rainfall and where untreated sewage is thrown directly into rivers, lakes and agricultural land or is used as fertilizer.

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The spectrum of this disease consists of pulmonary, intestinal, appendicular, hepatobiliary and pancreatic ascariasis. Human infestation with *ascaris* is usually asymptomatic in the majority of infected persons or cause only vague abdominal symptoms.³

The distribution of *Ascaris Lumbricoides* in the whole world has caused 1.4 billion infections with it⁵ and majority of the infected people belong to South East Asia. The prevalence of *ascaris lumbricoides* in South-East Asian countries and China is in the rates of 41-92% while in some parts of Africa it is about 95%.³

Hepato-pancreato-biliary ascariasis is found mainly in endemic parts of the world and large series of studies have been published from many parts of India including Kashmir⁴, Kolkata⁶ and Assam³ and many other endemic countries like Saudi Arabia⁶ and Syria⁷.

The natural habitat of *ascaris lumbricoides* is jejunum but because of high load they move proximally into the duodenum. They have the natural inclination towards the orifices and as a result they enter the ampulla of water and the worms which are large in size blocks the ampullary orifice leading to obstruction of both the biliary and pancreatic ducts.⁸

Hepato-pancreato-biliary ascariasis mainly affects adult population predominantly female gender (female: male ratio 3:1)⁵ and patients usually present with biliary

colic, cholangitis, cholecystitis, Liver abscesses and acute pancreatitis.⁸

Hepato-pancreato-biliary is diagnosis by ultrasound, duodenoscopy, MRCP and ERCP. Endoscopic retrograde cholangiopancreatography is needed for the retrieval of live or dead worms from ampulla or biliary and pancreatic ducts.⁸

The main aim of this study is to know the common clinical presentation of hepatobiliary and pancreatic ascariasis in our local population and their management accordingly.

MATERIALS AND METHODS

This descriptive case series study was done carried out in the department of Gastroenterology MTI-LRH Peshawar from 1st October 2019 to 30th June 2020 on patients of either gender, greater than 12 years of age and having ultrasonic evidence of hepatobiliary or pancreatic ascariasis. Patients younger than 12 years, patients with hemodynamic instability or those who decline ERCP were excluded from this study. All patients were admitted to the ward. Necessary baseline investigations were carried out. Patients were treated symptomatically and ERCP was performed after taking consent. Worms protruding from papillae were removed through the snare, then cannulation done, cholangiogram taken, sphincterotomy carried out in all patients and extraction balloon was swept to clear the CBD of the worms. Patients were observed for post-ERCP complications. Data was analyzed by using SPSS.

RESULTS

There were 6 males (33.33%) and 12 females (66.67%) with a male to female ratio of 1:2. Mean age was 27.83±12.00. Majority of the patients were in the age range of 10-20 years (Table 1). Eight patients (44.44%) belonged to tribal district Bajaur, 7 (38.8%) were from District Dir while 1 (5.55%) patient each was belonging to District Swat, Shangla and Bunir.

Epigastric pain was the most frequently occurring symptom present in all 18 (100%) patients, followed by Vomiting in 12 (66.66%) patients. obstructive jaundice was present in 10(55.55%), anemia in 9 (50%) in 6patients. Cholangitis was present in 6 (33.33%) patients and acute pancreatitis in 3 (16.66%) patients. Twelve (66.66%) patients were having single worms, 4 (22.22%) patients were two worms, 2 (11.11%) patients were multiple worms, maximum number of worms extracted was 10. Worms protruding from major papilla were seen in 9 (50%), worms protruding from both major and minor papilla were seen in 1 (5.55%), seen fluoroscopically in 8 (44.44%) patients (Tables 2-4).

Table No.1: Frequency of genders (n=18)

Gender	No	%
Male	6	33.33
Female	12	66.67
Age (years)		
10-20	5	27.77
21-30	7	38.88
31-40	4	22.22
> 40	2	11.11

Table No.2: Frequency of symptoms

Symptoms	No.	%
Epigastric pain	18	100.0
Vomiting	12	66.66
Jaundice	10	55.55
Pallor	9	50.0
Cholangitis	6	33.33
Pancreatitis	3	16.16

Table No.3: Frequency of number of worms

No. of worms	No.	%
Single	12	66.66
Double	4	22.22
Multiple	2	11.11

Table No.4: Frequency of worms position

Worms position	No.	%
Protruding from major papilla	9	50
Protruding from major+minor papilla	1	5.55
Seen on flouroscopy	8	44.44

DISCUSSION

Hepatobiliary ascariasis (HBA) has become a common problem now a day in certain areas of our country than because frequent use of ultrasound, MRCP and endoscopy in the clinical practice. There are a variety of manifestations in hepatopancreatobiliary ascariasis and diagnosis depends on a high index of suspicion in endemic areas coupled with subsequent confirmation by sonographic or endoscopic demonstration of the worm. Since the early 90's increasing number of reports from several parts of the Globe has drawn attention to this issue especially as a cause for common bile duct obstruction.⁹ According to the available literature, there is a female preponderance of HPA and it is commonly seen in the mid-thirties, with most of the patients presenting with acute abdomen and jaundice³.

Our study results are comparable to the study of Nayak et al¹⁰ done in India, in gender distribution and clinical presentations. Similarly, our study results are also compatible with the case report described by Sundriyal et al¹¹ and Madhumita mukhopadhyay⁶ where majority of cases presented with pain epigastrium and other similar clinical complaints.

The limitations of this study are that the number of cases are small and may not truly represent the society so a large study are required to explain this issue specially to dig out the surge of hepatobiliary causes in districts Bajaur and Dir of KP to design effective preventive measures to avoid the complications caused by hepatobiliary ascariasis.

CONCLUSION

Hepatopancreatobiliary ascariasis has not remained an uncommon issue now in certain districts especially Bajaur and Dir of Khyber Pakhtunkhwa, affecting mainly young females, presenting with epigastric pain, vomiting and jaundices so Diagnosis of HPA needs a high index of clinical suspicion, while managing cases of biliary colic, physicians should consider biliary ascariasis as the possible cause. Ultrasound can be an effective diagnostic tool and endoscopic intervention through ERCP is effective, fast and therapeutic modality for HPA.

Author's Contribution:

Concept & Design of Study: Dilaram Khan
 Drafting: Mohammad Iltaf
 Data Analysis: Fakhare Alam
 Revisiting Critically: Dilaram Khan,
 Mohammad Iltaf
 Final Approval of version: Dilaram Khan

Conflict of Interest: The study has no conflict of interest to declare by any author.

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