COMMON BILE DUCT ASCARIASIS

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ABSTRACT

Objective: To assess the advantage of palpation of CBD during exploratory laparotomy in patients with acute abdomen.

Material and Methods: A prospective study was conducted from July 1998 till December 2002 at Tehsil Head Quarter Hospital Matta, District Swat, Saidu Group of Hospitals Swat and DHQ Hospital Timergara District Dir Lower. Eleven patients, 5 male and 6 female (mean age 9.8±2.6 years) were included in this study. All the operations were performed under general anaesthesia.

Results: Four patients were diagnosed preoperatively by abdominal ultrasonography and subjected to operative extraction of worms on next operation list. Seven patients presented with acute abdomen and turned out to have biliary ascariasis on palpating the CBD during exploratory laparotomy. T tube was inserted in 10 patients to drain the CBD, while in one patient primary repair was done. Their postoperative course was smooth and uneventful.

Conclusion: Biliary ascariasis though not a common problem must be considered as a possibility in patients presenting with acute abdomen in endemic areas especially when no other cause for the patient’s symptoms is apparent.

Key words: ascariasis; bile duct palpation, acute abdomen.

INTRODUCTION

Ascaris Lumbricoides is a cosmopolitan human parasite. More than one billion people of the world are infected by this nematode. Its prevalence rate though rare in developed countries; in under developed communities its incidence reaches upto 60%. Jejunum and ileum are its preferred habitats, but its commonest extra intestinal location is biliary tract.

The adult worm in the small intestine usually causes no symptoms but in endemic areas with heavy infection its complication
like acute intestinal obstruction is not uncommon. Adult worms can migrate through the biliary tract reaching the intra-hepatic ducts and the gall bladder, causing acute cholecystitis, cholangitis, biliary colic, obstructive jaundice and hepatic abscesses.

The current treatments are anti-helminthic drug therapy for intestinal ascariasis and endoscopic, surgical or laparoscopic extraction for their complications.

Even in this era of advanced technology and investigation facilities at hand, it is not uncommon in a general surgical unit to explore patients surgically with a pre-operative diagnosis of acute abdomen. In most of these patients a straightforward reason is found and is dealt with accordingly. But occasionally no definitive cause for the patient’s problem is found. Then these operations are labelled as negative laparotomies, which is an unwanted remark for the surgeon. It particularly hurts when the patients come back with their problems. Regarding the management of acute abdomen, the local medical literature is almost silent about this rare but definitive entity.

This study was conducted to draw the attention of general surgeons to include palpation of common bile duct in their cases of exploratory laparotomies especially when no other cause for the patient’s symptoms is apparent.

MATERIAL AND METHODS

This study was carried out from July 1998 to December 2002. It includes eleven cases with predominant female distribution. Eight patients were from THQ Hospital Matta District Swat, one from Saldu Group of Hospitals Swat and two from DHQ Hospital Timergara District Dir NWFP. Their mean age was 9.8 years ranging from 7-16.

All patients having roundworms in common bile duct were included in this study. Only 4 patients were diagnosed pre-operatively by ultrasonography and were explored for the purpose, while in 7 patients ultrasonographer missed the diagnosis and explorative laparotomy was performed for acute abdomen. As no other cause was apparent, so the common bile duct was palpated for any pathology. Worms were felt in common bile duct. So the common bile duct was explored by performing choledochotomy and the worms extracted. T tube was put in 10 patients for common bile duct drainage, while in one patient the common bile duct was repaired primarily due to non-availability of T tube.

RESULTS

Eleven patients were included in this study. There were 5 male and 6 female showing female predominance (table No.1).

SEX DISTRIBUTION OF PATIENTS

<table>
<thead>
<tr>
<th>Sex</th>
<th>No.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>5</td>
<td>45.5</td>
</tr>
<tr>
<td>Female</td>
<td>6</td>
<td>54.5</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>100</td>
</tr>
</tbody>
</table>

TABLE - 1

Age ranged from 7 - 16 years with a mean age of 9.8 ± 2.6 years. The most common age group involved was 6 - 10 years (table No. 2).

AGE DISTRIBUTION OF PATIENTS

<table>
<thead>
<tr>
<th>Age range</th>
<th>No. of patients</th>
<th>Cumulative No.</th>
<th>Percentage</th>
<th>Cumulative percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 - 10</td>
<td>8</td>
<td>8</td>
<td>72.7</td>
<td>72.7</td>
</tr>
<tr>
<td>11 - 15</td>
<td>2</td>
<td>10</td>
<td>18.2</td>
<td>90.9</td>
</tr>
<tr>
<td>16 - 20</td>
<td>1</td>
<td>11</td>
<td>09.1</td>
<td>100</td>
</tr>
</tbody>
</table>

TABLE - 2

JPMI Vol. 18(3) 513
All these patients presented to us with vague upper abdominal pain of severe intensity associated with nausea and vomiting. On clinical examination none of them were ecteric. On abdominal palpation there was no definitive tenderness or mass. Their bowel sounds were audible and normal. Their blood and urine analyses were within normal limits. Their abdominal X-rays were inconclusive.

Four patients were diagnosed pre-operative by ultrasonography, while 7 patients had history of acute abdomen and they were diagnosed as having biliary ascariasis on palpating common bile duct during exploratory laparatomy (table No. 3).

**DIAGNOSIS**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>No. of patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-operative by Ultrasonography</td>
<td>4</td>
<td>36.4</td>
</tr>
<tr>
<td>Per-operative</td>
<td>7</td>
<td>63.6</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>100</td>
</tr>
</tbody>
</table>

**TABLE – 3**

The number of worms present in common bile duct also varied from 1 - 6. In 6 (54.5%) patients only single worm was present in the common bile duct, in three patients the number of worms were 2 each, while the remaining two had 5 and 6 worms respectively (table No. 4).

**NUMBER OF WORMS IN COMMON BILE DUCT**

<table>
<thead>
<tr>
<th>No. of worms in CBD</th>
<th>No. of patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>54.5</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>27.3</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>9.1</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>9.1</td>
</tr>
</tbody>
</table>

**TABLE – 4**

**DISCUSSION**

Ascaris Lumbricoides is a common intestinal parasite especially in the under developed countries. There are several ways in which Ascaris Lumbricoides infestations can manifest. Biliary tract is the commonest extraintestinal manifestation of roundworms. Patients of pancreatoco biliary ascariasis are mostly young children with female predominance. In our series 72.7% patients were in the range of 5-10 years of age which is consistent with other studies. But the female to male ratio was not as high as reported by other workers.

These patients present with symptoms of upper abdominal pain of severe intensity associated with vomiting. All of our patients presented to us with similar symptoms.

The Laboratory findings may disclose leukocytosis, slightly elevated alkaline phosphatase and transaminase levels. Like most other studies none of our patients had clinical jaundice. Unlike other series, none of our patients were fenerile, as in our circumstances; patients almost always receive broad-spectrum anti-biotics from near by practitioners/quaques without any discrimination and definitive indications.

The reliable diagnostic tools for biliary ascariasis are abdominal ultra-sonography and Endoscopic Retrograde Cholangio Pancreatography (ERCP). Colour flow Doppler sonography may further assist in demonstrating the moving worm in the biliary tree.

The result of ultrasonography not only depends upon expert sonologist and modern machines but also on special concentration on CBD during scanning. The three cases at Tchil head Quarter Matta of our series were diagnosed pre-operatively because we specifically asked for common bile duct scanning. The single case operated at Saidu group of hospitals Swat was diagnosed pre-
Common bile duct ascarasis

operatively because of the availability of better facilities and properly trained sonologist. Anyhow in our study the high number of false negative sonography is more than any published data\textsuperscript{4,19}.

Endoscopy with E.R.C.P is a combined Endoscopic and radiological procedure that allows inspection of the duodenum as well as visualisation of the biliary and pancreatic ducts. In addition it is highly recommended for C.B.D worm extraction\textsuperscript{20,21}. Although four of our patients were diagnosed pre-operatively by ultrasonography; unlike other published studies in none of our cases this modality was used as the instrument is costly and the expertise is limited for the very poor population that is drained to our hospitals. The remaining 7 patients had history of acute abdomen and were subjected to exploratory laparotomy for their symptoms. They were diagnosed as having biliary ascarasis on palpating their common bile ducts during laparotomy. During exploration of the CBD turbid bile suggestive of infection was noted in 3 (27\%) patients, but unlike other series no other complications like gallstones, hepatomegaly, worm in gall bladder, cholecystitis or pancreatitis was observed\textsuperscript{22,23}.

Although Eymeri et al. (1989) suggest per-operative choledoscopy to diagnose biliary ascarasis during operation\textsuperscript{24}. Our reliable tool for per-operative diagnosis was manual palpation of CBD, as we don't have such facilities at hand.

Conclusion

This study will hopefully draw attention of the surgeons working in periphery in particular to include palpation of C.B.D as standard in their exploratory laparotomies and will thus reduce the incidence of negative Laparotomies. The plea therefore is that in areas where round worm infestation is endemic, not only the sonographer should specifically screen the CBD, but also the surgeons should palpate the common bile duct in their exploratory laparotomies for acute abdomen.

References


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