An Unusual Cause of Iron Deficiency Anemia in a Child With Colonic Lithobezoar: Case Report and Review of the Literature

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Abstract

Along with literature search, we aimed to emphasize the importance of psychiatric evaluation, existence of pica history as the reason for iron deficiency anemia, and the timing of early surgical intervention to prevent development of intestinal obstruction in a 14-year-old boy diagnosed for colonic lithobezoar.

Keywords: Iron deficiency anemia; Lithobezoar; Child

Introduction

Bezoar is a cluster of mass forming as a result of ingestion of food or foreign materials that cannot be absorbed by the intestinal system [1, 2]. Lithobezoar occurs by ingestion of stones and is a very rare cause of intestinal obstruction in childhood. Signs and symptoms range from mild to severe according to the anatomical region of the stone accumulation [3-11]. If there is iron deficiency anemia (IDA) concomitantly, pica should definitely be questioned in the history [8, 11]. We report the predisposing factors, clinical presentation, diagnostic evaluation and therapeutic management of one case with colonic lithobezoar in the light of literature.

Case Report

A 14-year-old boy presented with the complaints of pallor, abdominal pain and constipation recurring intermittently for two years. He had been admitted several times to other hospitals for IDA requiring iron treatment. At presentation, he was pale and anxious. There were decreased in bowel sounds and tenderness in lower abdominal quadrants on physical examination, and a solid mass on rectal examination. Plain abdominal radiography showed an image of disseminated opacity in the region corresponding to descending and sig-

Figure 1. Plain abdominal radiography showed an image of disseminated opacity in the region corresponding to descending and sigmoid colons.
Table 1. Summary of the Demographic and Clinical Characteristics of the Cases With Colonic Lithobezoar

<table>
<thead>
<tr>
<th>Authors</th>
<th>Year/Loc.</th>
<th>Age/Gender</th>
<th>Symptoms and Duration</th>
<th>History of Pica/IDA</th>
<th>Mental/Psychological Status</th>
<th>Imaging</th>
<th>Treatment</th>
<th>Complications</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rathi et al [3]</td>
<td>1999/India</td>
<td>4 yrs/girl</td>
<td>Mild pallor, Constipation (8 days)</td>
<td>Suspected/NR</td>
<td>Normal</td>
<td>Abdominal radiography</td>
<td>Manually evacuated</td>
<td>Partial intestinal obstruction</td>
<td>NR</td>
</tr>
<tr>
<td>Ratan et al [4]</td>
<td>2000/India</td>
<td>5 yrs/girl</td>
<td>Constipation (2 wks)</td>
<td>No/NR</td>
<td>Mental retardation</td>
<td>Abdominal radiography</td>
<td>Manually evacuated</td>
<td>No</td>
<td>NR</td>
</tr>
<tr>
<td>Vijayambika et al [5]</td>
<td>2004/India</td>
<td>6 yrs/boy</td>
<td>Mild pallor, Constipation (2 days)</td>
<td>Yes (1yr)/NR</td>
<td>NR</td>
<td>Abdominal radiography</td>
<td>Colonic lavage</td>
<td>No</td>
<td>NR</td>
</tr>
<tr>
<td>Tokar et al [6]</td>
<td>2004/Turkey</td>
<td>6 yrs/girl</td>
<td>Constipation (2 days)</td>
<td>Yes/NR</td>
<td>NR</td>
<td>Abdominal radiography</td>
<td>Colonic lavage</td>
<td>No</td>
<td>NR</td>
</tr>
<tr>
<td>Nanyanan et al [7]</td>
<td>2008/India</td>
<td>9 yrs/boy</td>
<td>Long-term constipation</td>
<td>Yes/No</td>
<td>Mild mental retardation</td>
<td>Abdominal radiography</td>
<td>Manually evacuated</td>
<td>Intestinal obstruction</td>
<td>No recurrence</td>
</tr>
<tr>
<td>Numanoglu et al [8]</td>
<td>2008/Turkey</td>
<td>4 yrs/boy</td>
<td>Constipation (2 days)</td>
<td>Yes/Yes</td>
<td>NR</td>
<td>Abdominal radiography</td>
<td>Manually evacuated</td>
<td>Partial intestinal obstruction</td>
<td>NR</td>
</tr>
<tr>
<td>Sheikh et al [9]</td>
<td>2010/India</td>
<td>9 yrs/boy</td>
<td>Recurrent constipation (3 yrs)</td>
<td>Yes (3 yrs)/NR</td>
<td>Normal</td>
<td>Abdominal radiography</td>
<td>Manually evacuated</td>
<td>No</td>
<td>6 months-No recurrence</td>
</tr>
<tr>
<td>Mohammad et al [10]</td>
<td>2010/Nigeria</td>
<td>8 yrs/boy</td>
<td>Hematochezia, Recurrent constipation (2 yrs)</td>
<td>Yes (2 yrs)/NR</td>
<td>Normal</td>
<td>Abdominal radiography</td>
<td>Manually evacuated</td>
<td>No</td>
<td>1 year-No recurrence</td>
</tr>
<tr>
<td>Torun et al [11]</td>
<td>2011/Turkey</td>
<td>15 yrs/boy</td>
<td>Recurrent constipation (5 yrs)</td>
<td>Yes/Yes</td>
<td>Behavioral problem</td>
<td>Abdominal radiography</td>
<td>Manually evacuated</td>
<td>No</td>
<td>NR</td>
</tr>
<tr>
<td>Present case</td>
<td>2011/Turkey</td>
<td>15 yrs/boy</td>
<td>Constipation (2 yrs)</td>
<td>Yes/Yes</td>
<td>Behavioral problem</td>
<td>Abdominal radiography</td>
<td>Manually evacuated</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

NR: Not reported.
moid colons (Fig. 1). Laboratory findings were as follows: hemoglobin, 5.5 g/dl; hematocrit, 19%; mean corpuscular volume, 51 fl; mean corpuscular hemoglobin, 15 pg; mean corpuscular hemoglobin concentration, 28.9 g/dl; red cell distribution width, 28.9%; platelet count, 608,000/mm³; white blood cell count, 14,200/mm³; serum iron, 6 μg/dl; iron-binding capacity, 372 μg/dl; reticulocytes, 1.04%; and serum ferritin, 1 mg/dl. Peripheral blood smear showed hypochromic, microcytic erythrocytes. There was also pica history.

Before surgical procedure, packed red cell transfusion was administered to the patient. Anal canal was dilated via forceps under general anesthesia and one kilogram of pebbles was removed out of the sigmoid colon. The patient was assessed as normal by the Department of Pediatric Psychiatry. As to the familial and socioeconomic background, he was poor and lived in a crowded and stressful house and his school performance and family relationship was awful. The patient, whose anemia improved, was discharged after starting iron treatment. He could not be reached by his contact information, and it was realized that he was lost to follow-up.

Discussion

Bezoars are concretions of undigested foreign material, which may occur anywhere in the gastrointestinal tract, usually in the stomach [1]. Trichobezoar or human hairball is the most common type of bezoar in humans, whereas lithobezoar, which is stone accumulation in the intestinal system, is very rare [2]. We searched PubMed to identify the reports on colonic lithobezoar in literature using the keywords “colonic lithobezoar” or “rectosigmoid bezoar” and only seven cases have been previously reported from developing countries such as India, Turkey and Nigeria [3-7, 9, 10]. Other similar case reports in Turkish literature, not indexed in PubMed, were also added into the case list [8, 11]. Among those nine cases, six were male and three were female. Although trichobezoar is more common in girls and adolescents, lithobezoar is more common in boys as in our case and literature search bezoar is more common in girls and adolescents, lithobezoar cases, six were male and three were female. Although trichobezoar or human hairball is the most common type of bezoar in humans, whereas lithobezoar, which is stone accumulation in the intestinal system, is very rare [2]. We searched PubMed to identify the reports on colonic lithobezoar in literature using the keywords “colonic lithobezoar” or “rectosigmoid bezoar” and only seven cases have been previously reported from developing countries such as India, Turkey and Nigeria [3-7, 9, 10]. Other similar case reports in Turkish literature, not indexed in PubMed, were also added into the case list [8, 11]. Among those nine cases, six were male and three were female. Although trichobezoar is more common in girls and adolescents, lithobezoar is more common in boys and in some cases, they can lead to life threatening complications [3, 7, 8].

Underlying psychiatric problems and mental retardation should definitely be investigated in such cases. Although no mental retardation or psychiatric problems were detected in the present case, there are three cases reported in the literature [4, 7, 11]. In children, bezoars are associated with pica, mental retardation, and coexistent psychiatric disorders. Eating disorders are psychiatric disorders presenting various problems in eating behavior and have biological, psychological, social, and familial factors as important causes [12]. It is possible that ingestion of stones started because of his stressful life events and familial conflict, but eventually resulted in real intestinal pathology in our case. After removing the stones and starting iron deficiency treatment, the patient could be reached no more. Therefore, there is no clear estimation on recurrence of the condition.

If there is IDA in the patient with colonic lithobezoar, pica should definitely be questioned in the history. Although pica is a common condition in children, and mostly improves spontaneously, if continues, IDA may develop. In the literature, there were eight cases reported with association of colonic lithobezoar and pica [3, 5-11], however, there were two cases with mild pallor, one case with hematochezia and, only two cases that developed IDA [3, 5, 8, 10, 11]. In conclusion, the presented case suggests that although IDA has a multifactorial etiology, subtle history of pica and concomitant bezoar should be taken into consideration as a possible additional factor in severe or persistent IDA. Clinicians should also be aware of colonic lithobezoars signs and symptoms in order to prevent the occurrence of intestinal obstruction in such cases

References

7. Narayanan SK, Akbar Sheriff VS, Babu PR, Nandakumar TK. Intestinal obstruction secondary to a colonic