Use of Liquid Paraffin in Conservative Management of Gastrointestinal Obstruction due to Ascariasis- Case Report

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ABSTRACT

Ascariasis is a condition that causes by Ascaris lumbricoides, which is a common parasitic infection worldwide, especially in developing countries that are located in the tropical and subtropical, with poor sanitation and hygiene. A. Lumbricoides is a well-known cause of serious complications in children. Here we report a case of ascariasis in a 3-year-old boy, presented to ER with abdominal pain, distension and vomiting. Patient admitted and the diagnosis of GI obstruction due Ascariasis made. Then conservative treatment with Liquid Paraffin started. The patient well tolerated the treatment and passed bunches of Ascaris worms, and intestinal obstruction resolved.

Keywords: Ascariasis, Intestinal Obstruction, Liquid Paraffin, Conservative treatment

Introduction

Ascariasis is a condition that causes by Ascaris lumbricoides, which contaminates the host by route of feco-oral. It can be absorbed from colons and migrate to liver, trachea, lungs and comes back to intestine. There, larvae can grow and reach sexual maturity and moult again. Females are longer than males and they produces 200,000 egg daily[1]. Signs and symptoms depend on load of this parasite and ranges from abdominal discomfort to Loffler’s syndrome, severe abdominal pain, vomiting and intestinal blockage. Many other abdominal symptoms include appendicitis, cholangitis, cholecystitis, biliary obstruction, liver abscess, and pancreatitis. Which need immediate diagnosis and treatment[1, 2, 3].

Conservative treatment is still a challenge for some intestinal obstruction due to heavy Ascaris; because of this, many methods have been tried, for those uncomplicated cases of intestinal obstruction due to ascariasis, in the countries that face this problem, and reported[2,3,4]. In this case, we will review conservative management of a 3 years old child with intestinal obstruction due to Ascariasis using Liquid Paraffin.

Case Report

A 3 years old boy referred from provincial hospital to our tertiary hospital emergency room (ER) for abdominal pain, distention and vomiting since 1 day. The child has been admitted in provincial hospital for gastroenteritis. The child started to vomit ascaris worms and doctors in the provincial hospital prescribed him Mebendazole 100mg BID. When the child did not pass stool for 24 hours and severe
abdominal distention appeared, they referred him to our tertiary hospital.

His abdominal pain appeared after admitting in provincial hospital. It was colicky, intermittent and located centrally around the umbilicus. He vomited several times and intermittently. The content were ascaris worms which were passing from his mouth and nose (No bilious was noted). Abdominal distention was present since ascaris vomiting started, and it became more distended since started time and the child did not pass any flatus, according to his mother.

On general physical examination, the child was pale and vital signs were normal. Abdomen was soft but distended, many large mobile masses were diffusely palpable. Rectal examination revealed tenderness and mass or fecal like matter. Rest of systemic examination was normal.

Abdominal X-ray in standing position revealed the typical pattern of gas-filled, dilated loops of small bowel with multiple gas-fluid levels, no pneumoperitoneum noted. Ultrasound examination of the abdomen showed dilated gas filled bowel loops and bunches of ascaris worms, which confirmed ascariasis. His urine analysis was normal. His blood exam revealed leukocytosis (13,300 cells/ mm3, 70% neutrophils).

The patient ordered NPO and NGT, intravenous fluids, liquid paraffin 45cc BID by NGT (30cc/year of age) and “Kleen” enema BID were given, post liquid paraffin administration, (after giving the liquid paraffin, the child encouraged to mobilize and walk for at least 30-40 minutes, then “’ Kleen Enema” applied). In the next 16 hours the child passed a large bunch of entangled worms with reduction in distention, and stopped vomiting. The patient kept in this order for 2 days more and every time after applying “Kleen Enema” He was passing large bunch of ascaris worms. Patient was without distention, vomiting and abdominal pain after the 3rd day. The patient discharged, after 4 days admission, with syrup creamafinn and one week later, after his transit become normal, single dose 400mg albendazole administered. In 10 days later follow up, the patient had no complaint and had good appetite with-out any constipation or abdominal pain.

**Discussion**

In developing countries located in tropical and subtropical regions, Ascariasisis, is one of the most intestinal parasitic infection. Although high success rate is reported with conservative management of intestinal obstruction due to ascaris worms such as making the patient NPO+NGT, IV fluids, antibiotics, antispasmodics and anthelmintic therapy (piperazine salt) followed by rectal enemas (glycerin plus liquid paraffin emulsion or hypertonic saline) among other measures, especially in patients who do not have peritonitis. But sometimes major and even fatal complications such as intestinal obstruction with variable effective conservative treatments have been reported. Gangopadhyay et al. described 19 of 22 children who had GI obstruction due to ascariasisis being conservatively managed using oral piperazine and glycerin with liquid paraffin emulsion enemas(2). Hamid et al. used gastrografin for conservative management of GI obstruction due to ascariasis in a prospective randomized trial to compare the result(4).

In this patient, we used liquid paraffin orally, which is a laxative and has lubricant effect. It is obtaining from petroleum and has colorless, transparent, odorless and oily liquid characteristic. Although it causes osmotic effect, but primarily it acts as stool lubricant, which made it tolerable and is not associated with abdominal cramps, electrolyte disturbances, flatulence, diarrhea or the emergence of tolerance with long term usage, but side effects commonly associated with osmotic or stimulant laxatives. In a number of studies, liquid paraffin formed the basis of treatment for constipation in children. It also showed a better lubricant result then other laxatives as maintenance(2, 5, 6, 7).

In our patient, we used liquid paraffin as oral laxative and simple “Kleen” enema to increase motility and passage of worms into colon, which proved to relieve sign and symptoms. If sign and symptoms of obstruction not relieved and or any complications occurred such as perforation, acute appendicitis, volvulus and biliary obstruction, then open surgery is indicated. Procedures like milking and disimpaction of worms from intestine to distal colon, resection & anastomosis and enterotomy which manually extracts the worms could be used(8, 9, 10).

In literature, Lipoid pneumonia from liquid paraffin ingestion is reported(2,5). The mechanism for liquid paraffin aspiration is not clearly understood. Besides that, neurodevelopmental abnormality was a reason in most cases, which predisposed the patient to aspiration. Children who have problem in swallowing is advised not to take liquid paraffin(5).
Use of antihelminthic drugs is not recommended during GI obstruction which may cause very serious and complicated conditions. But it is better to be used after the resolution of GI obstruction’s signs and symptoms, and achievement of good gas/stool passage.

Conclusion
Liquid paraffin can be suggested as a conservative management in GI obstruction due to ascariasis without serious complication such as peritonitis. Still there is no enough data to confirm its benefits among hazards. It acts as lubricant and can help in passage of ascaris worms with intestinal peristalsism. Uncomplicated cases of intestinal obstruction due to ascariasis can conservatively managed but surgery in indicated when complication occurred.

References