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Clinical Image

Intestinal Ascariasis: The Unsuspected Cause of Acute Abdomen Detected on Ultrasonography

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We present here a case of 15 years old male child who presented with acute pain abdomen in the emergency to a community level hospital in a suburban area. Patient was taken for abdominal ultrasonography and on evaluating the gut with linear ultrasound probe (3-12 MHz) multiple tubular structures, with four long parallel well defined echogenic lines were seen in longitudinal view with central hypoechoic area [Figure 1, arrows]. These appear oval to round in cross section with central hypoechoic area [Figure 2, arrows] within the small intestinal lumen.

On real time scanning movements were also observed and diagnosis of Ascariasis was made. Multiple such worms and mesenteric lymph-nodes were also seen, however in sonographic evidence of dilated gut loops, intestinal intussusception, inter gut loop or intra-abdominal free fluid was seen. Child was admitted and started in antihelminthics and supportive care. Patients symptoms settled and was discharged after two days.

Human Ascariasis is caused by a helminth, Ascaris lumbricoides which is widely distributed in tropical and subtropical regions mainly affecting the developing world. Adult worm is 15-30 cm in length and 3-6 thick round worms and infect human when material contaminated by embryonated eggs is ingested. The eggs hatch in stomach and reach lungs hematogenously after penetrating the intestinal mucosa. The worms are regurgitated and re-swallowed from lungs to stomach. Patient may present with pulmonary or gastrointestinal manifestations.

Pulmonary ascariasis may cause pneumonia or Loeffler's syndrome. Apart from malnutrition, the adult worms in the intestine can cause the mechanical bowel obstruction of small intestine or volvulus or intussusception. Rarely, patients may have pancreatitis, acute cholecystitis or acute appendicitis [1, 2].

Ultrasound is usually a first investigation undertaken to evaluate an acute abdomen in emergency setting as in the index case. The worms appear as a tubular structure with well-defined four parallel echogenic lines with a central hypoechoic area on longitudinal scan. On transverse ultrasonographic image these appear as round echogenic rings surrounding a central hypoechoic area, described as 'Target sign'. The real time moments of the worms can be seen confirming the diagnosis [3-5].

To conclude, ascariasis is the most common helminthic infections in the developing countries and is a common health issue. These patients may present at emergency with acute abdomen. Ultrasonography is a rapid, safe, radiation free, noninvasive and readily available radiological modality and can diagnose intestinal ascariasis with high confidence.

Figure 1: Abdominal ultrasound Images using linear ultrasound probe (3–12 MHz) showing a tubular structure, with long parallel well defined echogenic lines on longitudinal view (arrows) with central hypoechoic area.

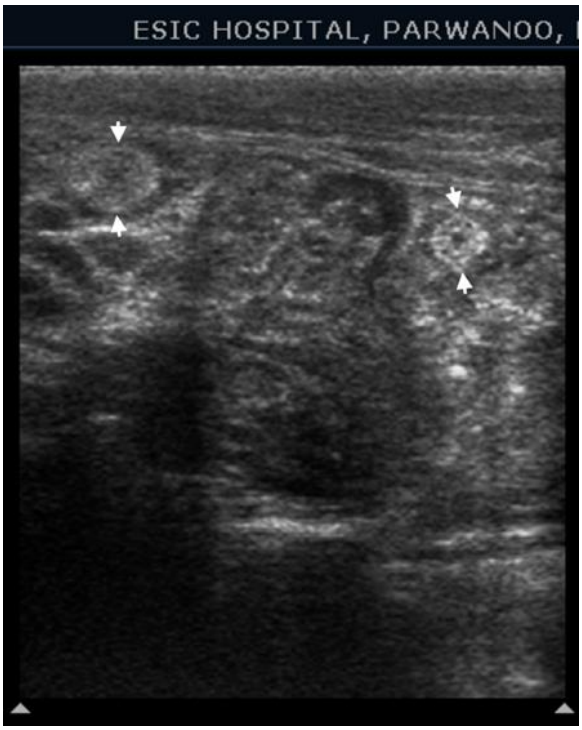

Figure 2: The cross sectional scan, show helminths appearing as oval to round echogenic rings (arrows) with central hypoechoic area within the small intestinal lumen.

Conflicts of Interest

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