

### **Intestinal Strongyloidiasis and Common Variable Immuno Deficiency Syndrome**

Chronic diarrhea due to strongyloidiasis is a well recognised entity especially in immunocompromised individuals. We report a case of intestinal strongyloidiasis in a case of common variable immuno deficiency (CVID).

A-18-year-old boy presented with a 3-year history of recurrent diarrhea, associated with vague abdominal pain with worsening of symptoms for one month and appearance of generalized anasarca. He also had intermittent, periumbilical pain associated with nonbilious vomiting. He had lost 4 kg of weight over the last one year. There was no history of sexual exposure or contact with TB. He had been treated for the diarrhoea symptomatically and had undergone basic investigations, which were not contributory. Examination revealed a thin, tall, emaciated boy with mild pallor and generalized anasarca. There was no icterus, petechiae, purpurae or significant lymphadenopathy. The abdomen was distended, soft with abdominal wall oedema. There was no palpable mass and bowel sounds were heard. The other systems were normal.

Investigations revealed a hemoglobin of 8.3 g/dL, total white blood count of 8800 cells/mm<sup>3</sup> with 8% eosinophils. The platelet count and peripheral smear were normal. ESR was 32 mm/hr. He had no albuminuria and renal parameters, blood sugar and transaminases were normal. He had marked hypoproteinemia (total protein of 2 g/dL; serum albumin of 1.7 g/dL). His serum immuno-

globulin profile showed a marked reduction of IgA 0.11 g/L (0.7 - 4 g/L), IgG 1.7 g/L (7-16g/L), IgM 0.37 g/L (0.4-2.3 g/L) and IgE was 4.00 IU/mL (normal upto 100 IU/mL). The CD3 and CD19 counts were normal. HIV by Elisa was negative. USG abdomen demonstrated only minimal amount of ascitic and pleural fluid. The bowel loops were normal. Stool examination done on three consecutive occasions was not contributory. Upper GI endoscopy was normal and duodenal biopsy showed blunting of duodenal villi, moderate increase in lymphocytes, plasma cells and many eosinophils in the lamina propria. Numerous cross sections of helmin-thic larvae consistent with the morphology of stongyloids were seen.

A diagnosis of intestinal strongyloidiasis with underlying CVID was made. The boy improved with intravenous immuno globulin (IVIG), albumin replacement and albendazole 400 mg/day for 2 weeks. This was evidenced by increase in albumin level, disappearance of anasarca, and weight gain of 2 kg in 1 month. He was advised to continue regular replacement with IVIG.

Strongyloidiasis is an infection due to an intestinal nematode *Strongyloides Stercoralis*, which is found mainly in the tropical and subtropical regions of the world. The chronicity of the infection is due to the auto infective ability of the parasite. Severe disseminated fatal disease may occur in immunocompromised and untreated individuals. The drug of choice in strongyloidiasis is thiabendazole, which is not available in India. However there are reports of chronic strongyloidiasis responding to a short course of albendazole (400 mg/day) for 3 days(1) or prolonged treatment for 2 weeks in

immunosuppressed individuals(2). A single oral dose of Ivermectin (200 µg/kg) has been reported to be more effective than multiple doses of thiabendazole(3). CVID is a syndrome characterized by hypogammaglobulinemia with phenotypically normal B cells(4). These patients are prone to infection with pyogenic organisms and also intestinal parasites, for example, *Giardia lamblia* and strongyloidiasis. An interesting observation is that CVID can resolve transiently or permanently in-patients who acquire human immunodeficiency virus (HIV) infection. The management includes a judicious use of antibiotics and regular IVIG therapy.

It is mandatory to evaluate children and adolescents with immunodeficient states for parasitic infestation such as *Giardia* or *Strongyloides* especially when they present with diarrhea and protein losing enteropathy. These infestations may present with worsening of underlying symptoms. A negative stool examination does not exclude infection and a duodenal biopsy and aspiration would be of immense help in the diagnosis.

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### **Esophageal Foreign Body Mimicking Esophageal Atresia**

A neonate, handed over to mother after a normal examination, was brought back at 4 hours with regurgitation of first feed, drooling of saliva and respiratory distress. An 8F stiff catheter could not be passed beyond 9 cm from the gum margin. X-ray showed the tube in the lower neck with normal lung fields and stomach gas. A diagnosis of esophageal-

atresia (EA) with tracheo-esophageal fistula (TEF) was made. Thoracotomy revealed normal esophagus and trachea without a fistula. A gastrostomy was performed. Symptoms continued in the postoperative period. Flexible endoscopy and CT scan showed a mass in the upper esophagus. Rigid endoscopy, performed with a view to obtain biopsy, showed a whitish "mass". A 2 cm ball of cotton wool was removed and the child recovered. In retrospect it was found that a relative had put honey soaked cotton wool in