Multiple Parasitic Infestations with Fasciolopsis Buski, Entamoeba Coli and Ascaris Lumbricoides in a Migrant: A Case Report.

Rudresh S.M.*, Basavaraj**, Shylaja P.*** & Ravi G. S.****

*Assistant Professor, ***Associate Professor, Department of Microbiology, ****Assistant Professor, Department of Radiology, ESIC MC PGIMSR & MH, Rajajinagar, Bengaluru, Karnataka, India

Case Report,

Subject: Medical Sciences

Abstract:
Reported is a case of two-and-half year old female, migrant from Tamil Nadu state, infested with Fasciolopsis buski, Ascaris lumbricoides and Entamoeba coli. Patient responded to treatment with nitazoxanide and albendazole combination therapy. It is important to consider multiple and non-endemic parasitic infestations in migrant population and a surveillance mechanism among the migratory population to institute preventive interventions is necessary.

Key words: Fasciolopsis buski, Polyparasitism.

Introduction:
Intestinal parasitic infestations are major public health problems in developing countries like India [1]. Co-infection with two or more parasitic infections further worsens the situation. Poor personal and environmental hygiene, overcrowding, lack of access to clean drinking water and varied climatic factors are the risk factors for such infections [2]. Polyparasitism increases the risk of morbidity like growth retardation, anaemia, decreased physical performance and impaired cognition. Studies have shown adequate antiparasitic treatment improves nutritional status and growth in children [3]. This report is of simultaneous infestation with trematode - Fasciolopsis buski, nematode - Ascaris lumbricoides and protozoan - Entamoeba coli in a 2.5 year old child.

Case Report:
A 2.5 year old female child was brought to paediatric outpatient department with history of chronic diarrhea, abdominal pain, loss of appetite and irritability for three months duration. Mother gave history of weight loss and stuntin of growth. Child was shown to local doctors twice but her symptoms did not subside. On examination child was severely malnourished. She weighed 9.5 Kg and her height was 76 cm. Mid-arm circumference was 12.6 cm. Blood investigations showed she had microcytic hypochromic anaemia (haemoglobin of 9.2 g/dl), and low total protein (4.6 g/dl) and albumin (2 g/dl). Total leukocyte count was 9200/cumm with differential count of Polymorphs-62, Lymphocyte-26, Eosinophils-11 & Basophil-1. Serology for HIV antibodies was non-reactive.

Stool sample was sent for microscopy and culture. The stool wet mount showed numerous large, elliptical to oval, operculated, bile stained eggs about 1 30 x 80 μm in size; the shell was thin with smooth surface (Fig-1a). Eggs morphologically resembled eggs of Fasciola spp but could not be differentiated to particular species by microscopy. Iodine mount showed spherical, 15-20 μm diameter cysts with 1-8 nuclei which were confirmed as cysts of Entamoeba coli (Fig-1b). Stool culture grew normal enteric bacteria. Ultrasound abdomen was done which showed multiple flat leaf shaped worms measuring 2-4 x 1-2 cm in the entire small intestine (Fig-1c). They resembled adult worms of Fasciolopsis buski. USG also showed an elongated worm along small intestine which resembled adult worm of Ascaris lumbricoides (Fig-1d). Liver showed normal echostructure, gall bladder and biliary tract was normal. Mother gave history of frequent travelling to her native place in Tamilnadu. No history of consumption of water plants like water lily, water cress, water bamboo etc. There was history of pica. The patient had mixed diet with frequent consumption of fish.

A diagnosis of multiple parasitic infestations was made and was treated with nitazoxanide 100mg twice daily for 5 days along with single dose of tablet albendazole 400mg. Patient suffered from constipation in the first 3 days of treatment. On 4th day she passed a dead adult female Ascaris lumbricoides worm (Fig-1e). After the course of antiparasitic therapy diarrhea stopped and child’s appetite improved. Stool microscopy was repeated twice after two weeks which did not reveal any ova or cyst. She was followed up for six months with modifications in her diet by adding nutritional supplements. During the
last follow up child had weight of 12Kg and Hb% of 10.5 g/dl.

Figure 1: (a) Fasciolopsis buski egg (b) Entamoeba coli cyst (c) USG picture of Fasciolopsis buski (d) USG picture of Ascaris lumbricoides (e) Adult Ascaris lumbricoides worm.

Discussion:
Fasciolopsiasis is a food-borne, intestinal, zoonotic infection caused by a trematode Fasciolopsis buski (giant intestinal fluke). In India the infection is endemic in Bihar, Maharashtra, Assam and Uttar Pradesh [4]. The adult worm inhabiting pig and man lays unembryonated eggs in feces. A ciliated miracidium coming out of egg penetrates snail where it multiplies to large number of cercariae. Free-swimming cercariae emerge from the snail and encyst to metacercariae on the surface of aquatic plants. Man gets infected on ingestion of these parasitized plants, and the cycle is repeated. Most infections in man are asymptomatic [4,5]. Heavy infection causes diarrhea, vomiting, malabsorption, intestinal obstruction, perforation, and eosinophilic leukocytosis [2]. Praziquantel is the drug of choice; because of treatment failure nitazoxanide is the preferred drug now [4].

The concomitant protozoan, trematode and nematode infection in the patient signifies the common mode of entry of these parasites. Migration of poor and underprivileged sections of the society for job opportunities promotes multiple parasitic infections. Present case is a native of Tamil Nadu residing in Bangalore, Karnataka who travels frequently to her native place. It is difficult to assess the place of origin of infection as factors favoring transmission of worm such as pigs, water plants and snails are present in both states. Etiology of multiple parasitic infections in the reported case is due to poor personal hygiene and sanitation along with consumption of contaminated food and water in different ecosystems. The case emphasizes the strong suspicion of multiple etiologies.

Proper education on the hygienic habits and sanitation should be provided; regular deworming of children should be done.

Conclusion:
The case emphasizes the need for strong suspicion of nonendemic infections and multiple etiologies in migrant population, as they are exposed to different endemic etiological agents.

Reference: