RARE CASE OF METAGONIMUS YOKOGAWAI

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Abstract

Intestinal Heterophyid infections are almost unknown in India with only one documented case report. We report a case of six year old child with diarrhoea without any other associated gastrointestinal symptoms. Examination of the faeces revealed eggs of Metagonimus yokogawai. However, the patient left against medical advice and was lost to follow up. The case is being reported because of its rarity.

Key words: Metagonimus yokogawai, diarrhoea, Heterophyid

Among Trematodes, intestinal pathology is caused by parasites belonging to five families namely, family Heterophyidae (10 species), Echinostomatidae (3 species), Diplostomidae (1 species), Plagiorchidae (1 species) and Gymnophallidae (1 species). The Heterophyid infection is acquired by eating fresh water fish, which serves as the second intermediate host. The egg hatches to give rise to an adult worm which attaches to the mucosal wall of the small intestine and lays embryonated eggs that are passed out with the faeces.

The Heterophyid worms cause mild symptoms which include abdominal pain, diarrhoea, easy fatigability, weakness and anorexia. For this reason these infections are overlooked by the patients and physicians. Attention should be paid to the infection caused by these minute sized intestinal flukes as their eggs are small and can penetrate through the walls of the intestinal capillaries and lymphatics. The eggs can be carried to the myocardium, brain and spinal cord causing emboli and granulomatous reactions.1

Laboratory diagnosis of a Heterophyid infection mainly rests on the recovery of eggs and the adult worms in the faeces. However, the definitive diagnosis should be based on the patient history of presence or absence of hepato-biliary symptoms and clinical findings of the same because unlike the Heterophyid adult worm the Ophisthorchid adult worm localizes in the biliary tract and causes symptoms including jaundice, upper abdominal pain, indigestion, diarrhoea and hepatomegaly but both the eggs are found in the faeces.2

Case Report

A 6-year-old female patient was admitted to the pediatric ward of LN hospital, New Delhi, India, with history of passing loose watery stools since four days. There were no other associated symptoms of vomiting, fever, pain abdomen and jaundice. However, it was difficult to ascertain the exact onset of the disease process as the patient was deaf and dumb since birth.

Physical examination of the patient revealed no clinical evidence of abnormality in the hepato-biliary system as per medical records. The patient was administered oral ciprofloxacin 250 mg twice daily but did not show any clinical improvement even after two days of treatment. Faeces was mucoid on gross examination but did not show the presence of pus, blood or any worm segments. In saline mount, 7 to 8 small, thick shelled, pale yellow-brown eggs were seen per cover slip preparation (approximately 4 eggs/mg of faeces). The eggs had a prominent operculum and inconspicuous opercular shoulders. The eggs were embryonated.

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Figure: M.yokogawai egg in saline mount of faeces (x100)
Morphometry of the eggs showed their size to be 30µm x 15µm (Figure). The eggs were identified as *Metagonimus yokogawai*. Blood sample could not be examined for the presence of the eggs as the patient left against medical advice after being treated by intravenous fluids for dehydration.

**Discussion**

*Metagonimus* is a common causative agent of diarrhoea in Japan, Korea, Taiwan, China, Russia, Spain, Indonesia, Israel and the Balkans. It is considered to be the most common intestinal fluke infection in the Far East; the prevalence tends to be high in Japan, Korea and Taiwan, with rates of 2 to 50% being reported from Japan. However, the occurrence of this infection is almost unknown in India. There has been only one case report from Assam in 1995.

Diagnosis of such rare cases of intestinal Heterophyid infection is important due to ability of their eggs to invade the blood stream thus causing serious complications. The infection responds best to praziquantel and not to the commonly used anti-helminthic agents.

**References**