

Anisakiasis of the tonsils

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Abstract

A six-year-old Indian girl presenting with clinical features of chronic recurrent tonsillitis, had a tonsillectomy. Histopathology revealed a cross-section of an *Anisakis* worm in the tonsil. This report documents a new location in the human host for this rare parasite.

Key words: Tonsillectomy; Nematoda

Introduction

Anisakiasis is a disease of the alimentary tract caused by nematode larvae belonging to the sub family Anisakinae (Inatomi *et al.*, 1980).

The adults of this parasite usually live in the stomach of marine fish. Human infections have been reported following consumption of such fish either raw or pickled. Once ingested the worms may cause acute nausea, vomiting or may penetrate into the walls of the digestive tract, where they give rise to eosinophilic granuloma in stomach, intestines or the omentum. Definitive diagnosis is usually made upon demonstration of the worms in specimens obtained at surgery (Markell *et al.*, 1992). Common geographical areas involved are; Japan, Netherlands, (Markell *et al.*, 1992) and the western United States (Kliks, 1983). A search of the English literature did not reveal anisakiasis in the tonsil or in the geographical region of the Arabian Peninsula.

Case report

A six-year-old Indian girl presented to the ENT Out-patient department of the Sultan Qaboos University Hospital with clinical features of chronic recurrent tonsillitis and adenoiditis. The child was underweight and apart from clinical features of chronic recurrent tonsillitis no other abnormalities were detected.

All investigations were within normal limits. The child underwent a routine tonsillectomy and adenoidectomy. The histopathology revealed an anisakid larva parasite lodged deep inside the lymphoid tissue of the tonsil. There was no adjacent eosinophilic infiltrate or granulomatous reaction in the tonsil (Figure 1).

The food habits were discussed retrospectively and it was found that the child ate fresh fish mostly mackerel, prawns and sardines. The fish was always cooked prior to ingestion. A stool test was unremarkable. On follow-up two months later the child was found to be asymptomatic.

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Comment

Marine fish are frequently infected with anisakiasis larvae. The prevalence of larval anisakids is high in the North sea, in Japan, Netherlands and Alaskan coastal waters and is increasing along the Pacific coast of North America (Markell *et al.*, 1992; Kliks, 1983). Review of the literature has not shown any reports of this worm infestation in the waters of Arabian sea.

The parasite usually invades the gastro-intestinal system (Markell *et al.*, 1992). Review of the literature for the past 10 years has not revealed invasion of the tonsillar tissue by the worm. However the histopathological features are similar.

The adults of this parasite normally live in the stomach of marine mammals such as whales or dolphins (Inatomi *et al.*, 1980). Most human infections are principally the result of ingestion of third stage larvae present in sardines and mackerel (Markell *et al.*, 1992). These were presumed to be the cause in the presented case. As there was no



Fig. 1

Cross section of *Anisakis* larva parasite lodged deep inside the lymphoid tissue of tonsil. It has an ovoid outline with a thick cuticle with only one of two Y-shaped lateral cords that are usually seen inside the larvae. The alimentary tract appears with its characteristic shape (Y). (H & E; $\times 44$)

history of gastro-intestinal symptoms and a stool test did not demonstrate any ova or cysts, it was presumed that the parasite entered the tonsillar tissue by the crypts.

To prevent anisakiasis it is recommended to keep fish frozen at -20°C for at least five days or heat it to at least 60°C for five minutes (Bier, 1976). In our patient the infection was linked to improper cooking as in this part of the world ingestion of raw fish is unknown. In this case chronic tonsillitis was probably an independent process and the finding of parasite was incidental. However the identification at this site is an important documentation that adds to the sites of habitat that have been already documented viz different parts of the gut. Since tonsils are not routinely examined by histopathology, it is possible that some cases of such parasite infestation may have been missed.

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