

Eosinophilic Abscesses of the Liver due to Enterobius Vermicularis

Dr. Jalal Vahedian Ardakani¹, Dr. Ali Zare² Mehrjardi², Fatemeh Nabavizadeh Rafsanjani³

¹Associate Professor of Surgery, Department of Surgery, Firoozgar Hospital, Tehran University of Medical Sciences,

²Associate Professor of Pathology, Department of Pathology, Firoozgar Hospital, Tehran University of Medical Sciences

³Professor of Physiology, Department of Physiology, Tehran University of Medical Sciences, Tehran, Iran

ABSTRACT

A 49-year-old woman with a 2-year history of right upper quadrant pain was referred to our clinic for management. Sonography revealed a cystic lesion with suspicion of hydatid cyst. Pathological section after surgical exploration revealed eosinophilic abscesses of the liver

Enterobius vermicularis. Only a few reported cases of hepatic oxyuriasis exist in the current literature.

Key words: Enterobius vermicularis, Liver Nodule, Eosinophilic Abscesses

Conflicting Interest:
None declared

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Correspondence to
Dr. Jalal Vahedian
Ardakani, Associate
Professor of Surgery

Address:
Department of
Surgery, Firoozgar
Hospital, Tehran
University of
Medical Sciences,
Tehran, Iran

Email:
jalvahedian@yahoo.com

INTRODUCTION

Enterobius vermicularis (pinworm) is one of the most common human parasites [10]. It is an intestinal nematode especially prevalent amongst children¹. It has a wide distribution and is prevalent even in developed countries. It normally lives in the cecum and right colon, and migrates out through the anus for oviposition. It is a lumen-dweller and hence, does not cause medically serious infestation, though it can be troublesome on rare occasions when the worm invades the tissues [1]. The female genital tract and peritoneal cavity are the most common extraintestinal sites of involvement of Enterobius vermicularis [2, 3]. The worm often migrates from the anal canal into the vagina, cervix, uterus, oviduct, and even peritoneal cavity, producing florid inflammatory reaction around the adult worm and eggs with a clinical presentation of a mass [4, 5]. There are only a few reported cases of hepatic pinworm infection [6, 7].

CASE

A 49-year-old woman was referred to our service for management of multiple cysts in her liver. She complained of constant dull pain of moderate intensity in the right upper quadrant of her abdomen for two years. There were no signs and symptoms of jaundice. Laboratory tests, including liver function tests and viral markers of hepatitis, were

within normal limits, except 14% (756/mm³) eosinophilia on white cell count. Sonography of the liver revealed a cystic lesion in the left hepatic lobe measuring 42 millimeter in diameter. Computed tomography (CT) scan of the liver confirmed the sonographic finding and found additional three small hypodense nodules in the right hepatic lobe (Figure 1 A, B, C). Hepatic hydatid cyst was suspected and she underwent surgery. No other confirmation tests for echinococcosis were carried out. At operation, three small nodules were seen in the right lobe of liver in addition to a medium-size cyst deep within the 4B segment. The nodules were excised with a rim of perinodular hepatic tissue. The cyst within the deep left lobe was managed using IAIR (Intraoperative Aspiration, Injection and Reaspiration) technique. Microscopic examination of the liver specimen showed abscess formation with extensive eosinophilic infiltrates surrounded by a fibrous rim. Degenerated worm-like parasites 2-5 mm in length were noted in the central part. These abscesses had fistulized into the adjacent bile ducts (Figure 2). One of the worms showed lateral ala compatible with Enterobius vermicularis. The patient was doing well at nine months follow-up. She was given oral mebendazole 100 milligrams twice a day for three days.

DISCUSSION

We present here a case of liver abscess in an adult due to *E. vermicularis*. Although it is generally believed that *E. vermicularis* infection is a disease of children, our case illustrates that it may also occur in adults. The female worms are larger than the males and typically range from 8 to 13 mm, and 2 to 5 mm respectively. They live mainly in the cecum and right colon. The gravid female worms migrate through the colon to the perianal region to deposit their eggs at night. They lay approximately 15,000 eggs at any given time. The eggs are then spread by the fecal-oral route to both the original host and new hosts. Once the eggs are ingested, they hatch in the duodenum and the larva mature as they migrate to the colon over a few weeks [10]. It has been known to be the most common intestinal parasite seen in the primary care centers, regardless of race, socioeconomic status, or culture [11]. Although infection with this worm is usually thought to be asymptomatic or to cause mild symptoms such as perianal itching, it can

be troublesome on rare occasions when the worm invades tissues [6-9, 12-16].

Liver is a very uncommon organ to be invaded by *E. vermicularis*. Suggested mechanisms of hepatic involvement of this intestinal lumen-dweller worm are hematogenous spread, direct penetration of the liver preceded by either invasion of the peritoneum through unhealthy or traumatized intestinal tissue, or from migration up the genital tract [14-16]. We found three small hepatic nodular abscesses fistulizing into the adjacent bile ducts. This finding may be indicative that retrograde migration of parasite and/or its larva from ampulla of Vater into the biliary tract and the liver may be a possible mechanism of hepatic infection.

In conclusion, hypodense nodules in the liver secondary to *E. vermicularis* infection (enterobioma) can be included in the differential diagnosis of non-neoplastic lesions that mimic a benign tumor or metastatic carcinoma in the liver.



Figure 1 A, B, C: CT scan of the liver revealed at least three enterobiomas (arrows)

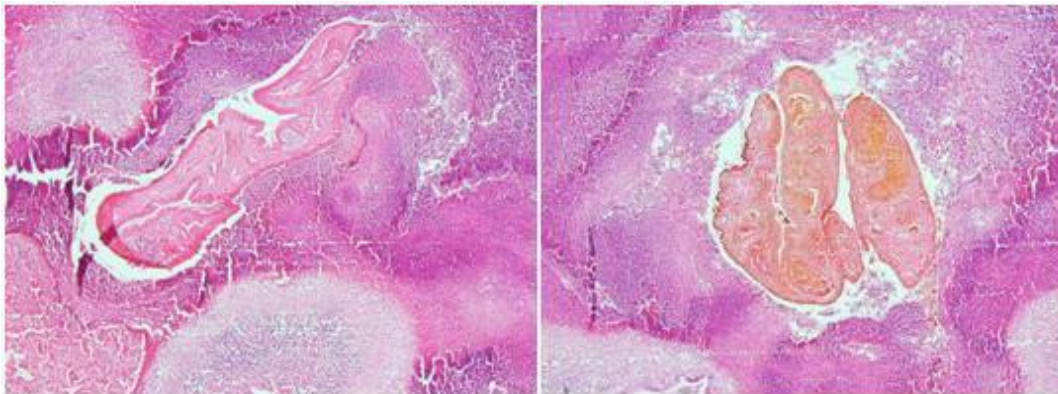


Figure 2: Histopathology showing hepatic enterobiasis, dead worms surrounded by eosinophil-rich abscess and fibrosis.

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