




## CLINICAL IMAGE

## Enterobiasis in the hospitalized patient

Emiri Muranaka MD<sup>1</sup>  | Naoki Okawa MD<sup>1,2</sup> | Nobuaki Tsuyama MD<sup>1,2</sup> |  
Haruki Mito MD<sup>1</sup>  | Yudai Yano MD<sup>1</sup> | Ryota Hase MD<sup>1,2</sup> 

<sup>1</sup>Department of Infectious Diseases, Japanese Red Cross Narita Hospital, Narita, Chiba, Japan

<sup>2</sup>Department of Infectious Diseases, Kameda Medical Center, Kamogawa, Chiba, Japan

## Correspondence

Ryota Hase, Department of Infectious Diseases, Japanese Red Cross Narita Hospital, 90-1 Iidacho, Narita, Chiba 2868523, Japan.

Email: [hase.ryota@kameda.jp](mailto:hase.ryota@kameda.jp)

**Keywords:** Enterobiasis, *Enterobius vermicularis*, pinworm infection

A 33-year-old Sri Lankan man, who had been living in Japan for the past 2 years, was admitted to the orthopedic ward because of a traumatic vertebral fracture. During admission, the patient felt itching near his anus. He denied any other symptoms. On examination at night, tiny white thread-like worms were observed in his perianal region (Figure 1). Additional history taking revealed that he had several episodes of pinworm infection in Sri Lanka and had been treated repeatedly with albendazole. We identified the nematode as *Enterobius vermicularis* based on the presence of elongated, one-sided, flattened eggs (Figure 2). We prescribed a single dose of albendazole 400mg and repeated it after a 2 week interval. His symptoms improved, and the worms disappeared after the treatment.



**FIGURE 1** Tiny thread-like worms are seen in the patient's perianal region (white arrows).

Enterobiasis (also known as pinworm infection) is caused by *E. vermicularis*.

Adult worms of *E. vermicularis*, with males measuring 2–5 mm and females 8–13 mm, live primarily in the cecum of the large intestine. Gravid female worms migrate at night to lay eggs on the perianal skin. The egg can be spread to the original host and to new hosts through the fecal–oral route. *E. vermicularis* is distributed worldwide,



**FIGURE 2** Adult female *Enterobius vermicularis* with numerous eggs. The specimens were collected with scotch tape and observed under an optical microscope (40×).

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infecting an estimated 209 million individuals.<sup>1</sup> In Japan, the incidence of Enterobiasis was 21.7% in 1961 but has since decreased to 0.10% in 2015 because of improved sanitation conditions.<sup>2</sup> A screening test with the scotch tape had been mandatory for school children in Japan but was discontinued in 2016 because of the low incidence.<sup>3</sup> As a result, physicians in Japan rarely encounter enterobiasis. Although enterobiasis is an almost neglected disease in Japan, physicians should keep it in mind because it is still endemic in other countries.

#### ACKNOWLEDGMENTS

None.

#### CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

#### PATIENT CONSENT STATEMENT

Written informed consent was obtained from the patient for publication of this clinical image.

#### ORCID

Emiri Muranaka  <https://orcid.org/0000-0002-0060-8185>

Haruki Mito  <https://orcid.org/0000-0002-8477-1245>

Ryota Hase  <https://orcid.org/0000-0002-3135-1757>

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**How to cite this article:** Muranaka E, Okawa N, Tsuyama N, Mito H, Yano Y, Hase R. Enterobiasis in the hospitalized patient. *J Gen Fam Med*. 2023;24:266–267. <https://doi.org/10.1002/jgf2.628>