



Closing the Brief Case: Central Nervous System Sparganosis in a 53-Year-Old Thai Man

Abigail L. Carlson,^a Nattapol Pruetpongpun,^b Aubonphan Buppajarntham,^b Pansachee Damronglerd,^b Neil W. Anderson,^c Anucha Apisarnthanarak^b

Division of Infectious Diseases, Department of Medicine, Washington University School of Medicine, St. Louis, Missouri, USA^a; Division of Infectious Diseases, Faculty of Medicine, Thammasat University Hospital, Pathumthani, Thailand^b; Department of Pathology and Immunology, Washington University School of Medicine, St. Louis, Missouri, USA^c

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ANSWERS TO SELF-ASSESSMENT QUESTIONS

- Humans usually acquire sparganosis from ingestion of or exposure to raw or undercooked meat from which animals?
 - Pigs and cows
 - Dogs and cats
 - Frogs and snakes
 - Sheep and goats

Answer: C. Human infection is most often associated with exposure to raw or undercooked frog or snake meat. The use of traditional poultices with raw meat from these animals has been implicated in transmission as well, particularly with ocular infection after poultices are applied to inflamed eyes. However, these cases have been decreasing in recent years. Infection can also occur with ingestion of contaminated water.

- Which life cycle stage of the *Spirometra* spp. is infectious to humans?
 - Unembryonated eggs
 - Proceroid larvae
 - Embryonated eggs
 - Coracidia

Answer: B. Coracidia are ingested by copepods, the first intermediate host, where they develop into proceroid larvae. The proceroid and subsequent plerocercoid larval forms are the infectious stages for humans. Neither unembryonated nor embryonated eggs are considered infectious.

- How is species-level identification of *Spirometra* spp. achieved?
 - Examination of gross and microscopic pathology
 - Enzyme-linked immunosorbent assays
 - Magnetic resonance imaging
 - PCR

Answer: D. *Spirometra* spp. cannot typically be differentiated based on pathology alone. Enzyme-linked immunosorbent assays are also ineffective for differentiation and can cross-react with other helminth antigens. PCR is thus the best method for distinguishing different *Spirometra* spp., though it is not commonly available and generally cannot be obtained outside Asia.

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Address correspondence to Anucha Apisarnthanarak, anapisarn@yahoo.com.

See page 352 in this issue (<https://doi.org/10.1128/JCM.01328-16>) for case presentation and discussion.

TAKE-HOME POINTS

- Sparganosis is a helminth infection with worldwide distribution, though it is most commonly seen in Southeast Asia.
- Sparganosis is acquired through exposure to contaminated water or to raw frog or snake meat.
- Diagnosis of sparganosis is made through a combination of clinical history and gross pathology of the sparganum, which shows a white, pseudosegmented helminth 3 to 30 cm long.
- Microscopic features of the sparganum that are common to all cestodes include a tegumental brush border, calcareous bodies, and a lack of a gastrointestinal tract.
- Surgical removal of the sparganum is the definitive treatment for sparganosis.