Answer to Photo Quiz: *Bertiella studeri* Infection

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Bertiella species are intestinal cestodes from the Anoplocephalidae family (1). Two species (*Bertiella studeri* and *Bertiella mucronata*) are implicated in human infections with over 50 cases reported (2,3). Children are more commonly affected by *B. studeri*, which is found in Asia and Africa, while *B. mucronata* is more prevalent among adults in South America and Cuba (2).

Nonhuman primates are the definitive host for *Bertiella* (4,5). Humans may accidentally become infected after ingesting the intermediate host, an oribatid mite. Cysticercoids from the mite develop into an adult worm in the small intestine of a host. These adults shed proglottids, which liberate eggs; both eggs and proglottids can be detected in a patient's stool (panel A of the photo). Proglottids are often excreted 10 or more at a time, morphologically resembling a "stack of pancakes" or "bow-tie pasta." The natural life cycle is completed when mites ingest the eggs and the liberated oncospheres subsequently develop into cysticercoids.

Microscopically, eggs are 36 to 60 μm long by 33 to 46 μm wide in *B. studeri* but smaller (36 to 46 μm long by 36 to 40 μm wide) in *B. mucronata* (6). Eggs of both species contain a characteristic pear-shaped pyriform apparatus (arrow in panel B of the photo), which terminates in two filamentous projections around an embryo, inside of which hooklets may be visible (arrow in panel C of the photo). Mature *Bertiella* proglottids are wider than they are long, so they may be confused with other species of tapeworm including *Hymenolepis* or diphylobothriid cestodes.

Bertiella infection may present asymptotically or with gastrointestinal complaints, such as abdominal pain, diarrhea, anorexia, weight loss, vomiting, or constipation (5). Previous cases report effective and well-tolerated treatment with praziquantel at 10 to 20 mg/kg of body weight either as a single dose or for two successive days (2,5). While niclosamide has been used successfully, treatment failures have also been reported.

Our patient likely acquired this zoonotic infection through peridomestic exposure to monkeys in South Africa. Both the size of eggs (42 to 50 μm in width by 46 to 60 μm in length) and geographical exposure implicate *B. studeri* rather than *B. mucronata*. After abundant eggs were found in the stool sample, it was reexamined, and a cluster of proglottids consistent with *Bertiella* spp. was also found, helping to confirm the diagnosis (panel A of the photo). While our patient only had mild abdominal pain, treatment with two doses of praziquantel (25 mg/kg), separated by 10 days, resulted in complete symptom resolution.

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