LETTERS


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Human Infections with Pseudoterranova cattani Nematodes, Chile

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To the Editor: Anisakidosis is an emerging foodborne zoonosis caused by nematode larvae of the Anisakinae subfamily, which includes the genera Anisakis, Pseudoterranova, and Contracsecum (1). In natural cycles, anisakid larvae are transmitted to marine mammals or piscivorous birds when they eat raw saltwater fish or squid. In the human incidental host, larvae attach to the mucosa of the gastrointestinal tract, causing clinical features ranging from asymptomatic carriage to severe abdominal pain with complications, such as gastric perforation (2). Microscopical diagnosis is hampered by the lack of distinguishing morphologic characteristics in larval stages (1). Recently, molecular genetic techniques have shown that the main species, Anisakis simplex and Pseudoterranova decipiens, are in fact species groups with distinct geographic and biologic characteristics (3,4). The P. decipiens complex consists of at least 6 sibling species (online Technical Appendix Table, http://wwwnc.cdc.gov/EID/article/21/10/14-1848-Techapp1.pdf). We report 4 human infections with P. cattani diagnosed during 2012–2014.

The case-patients were adults 22–59 years of age; 2 were female, and all lived in Santiago, Chile. Additional anamnestic and clinical data were available for 3 patients: all spontaneously regurgitated the parasites without having other gastrointestinal complaints. All 3 reported eating ceviche, a dish made of raw marine fish marinated in lemon juice. One patient reported a tingling sensation and coughs before the expulsion of a highly motile larva (Video, http://wwwnc.cdc.gov/article/21/10/14-1848-V1.htm). This patient was awaiting oral surgery after a bicycle accident and had eaten the last raw fish dish 2 weeks previously. Initially, parasites were identified by morphologic criteria. Larvae were 20 mm long, were of whitish to reddish color, and had 3 anterior lips (online Technical Appendix Figure 1). Because of the presence of an anteriorly directed cecum (online Technical Appendix Figure 2), they were assigned to Pseudoterranova species.

For further molecular identification, DNA samples were extracted by using a DNeasy Blood and Tissue Kit (QIAGEN K.K., Tokyo, Japan). The rRNA gene containing 2 internal transcribed spacer (ITS) regions was amplified by PCR using primers NC5 and NC2, as previously described (5). PCR products were sequenced by using a BigDye Terminator Cycle Sequencing Kit (Applied Biosystems Inc., Foster City, CA, USA) on an automated sequencer (ABI3100, Applied Biosystems). Sequence similarities were determined by a BLAST search of DDBJ (http://blast.ddbj.nig.ac.jp/top-j.html). The GENETYX-WIN program version 7.0 (Software Development Co., Tokyo, Japan) facilitated sequence alignment and comparison. Within the 4 ITS sequences of amplicons obtained, all were 100% identical, and alignment with the other P. cattani sequence differed only in 1 nt. ITS sequences of 2 isolates are available in GenBank (accession nos. KF781284 and KF781285). All P. cattani sequences showed a previously described

1These authors contributed equally to this article.
molecular diagnostic techniques need to be more widely available. To better understand the epidemiology and clinical manifestations of this syndrome, comparative studies are lacking,


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References


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