

## Comments on 'A case report of *Trichinella spiralis* pericarditis: an unusual cause of pericardial effusion and cardiac tamponade in an immunocompetent urban black African'

We read with interest the paper by Nkoke *et al.*<sup>1</sup> published in a recent issue of your journal and reporting a case of *Trichinella spiralis* pericarditis with videos showing numerous moving worms in pericardial fluid (<https://doi.org/10.1093/ehjcr/ytac480>). There are several drawbacks to this paper. Larvae shown in videos are not infective *Trichinella* sp. larvae either morphologically or in terms of their movement (too mobile and not coiling/uncoiling). To our knowledge, *Trichinella* sp. muscle larvae can never emerge from the skeletal muscle cells, unless artificially or naturally digested. Furthermore, these larvae do not infect myocardial cells. Migrating larvae of *Trichinella* spp. [named newborn larvae (NBL)] are very small (~100 µm in length × 7 µm in width), and their morphology (stocky and with both ends rounded; see pictures at [http://www.wormbook.org/chapters/www\\_genomesTrichinella/genomesTrichinella.html](http://www.wormbook.org/chapters/www_genomesTrichinella/genomesTrichinella.html)) is very different from that of larvae shown in the picture and the videos. Furthermore, NBL are very seldom observed in blood or other fluids even during the acute phase of trichinellosis characterized by clinical manifestations such as fever, facial oedemas, and muscular pain. No such signs and symptoms are described here. In addition, if myocarditis is a frequent complication of trichinellosis mediated mainly by the high eosinophil counts, pericardial effusion seems infrequent and usually well tolerated. Lazarević *et al.*<sup>2</sup> reported pericardial effusions in 6 out of 62 trichinellosis patients, 5 of whom had minimal effusions without impairment of left ventricular systolic function. Other nematodes should also have been considered by the authors of the article. Acute cases of tamponade have been described during toxocariasis, but in these cases, larvae were not observed in the pericardial effusion, which resulted from a general inflammation. Owing to the geographical origin of the case and to the aspects of the moving larvae, filariae should be suspected: *Wuchereria bancrofti*, *Loa loa*, and *Mansonella perstans*. Adults of *M. perstans* are living in the serous cavities such as the 'peritoneal or pleural cavity, less frequently in the pericardium' (<https://www.cdc.gov/dpdx/mansonellosis/index.html>). *M. perstans* adults have first been discovered in 1898 from the sub-pericardial fat during a post-mortem examination of aboriginal Indians in British Guiana.<sup>3</sup> Interestingly, Foster<sup>4</sup> published in 1956 a fatal case of pericarditis from Cameroon very similar to the case reported by Nkoke *et al.*<sup>1</sup> Foster noted 'numerous microfilariae were found in the exudate. The larvae were not specifically identified as an autopsy was not permitted'. However, circumstantial evidence indicated that *M. perstans* may have been the nematode involved. Several cases of pericarditis due to *W. bancrofti* have been observed in India;<sup>5</sup> but *W. bancrofti* is extremely rare in Cameroon (except in the Far North Region). Pericarditis due to *L. loa* was also reported in a German expatriate living in Cameroon.<sup>6</sup>

In the present case, it would have been interesting to know the precise blood eosinophil counts and to search for microfilariae in the blood by concentration techniques and staining. The staining of the larvae would have allowed the precise measurement of the worms and to check the presence or the absence of a sheath, features of utmost importance for a precise diagnosis. As the length of the larvae seen in the videos is ~40 times their diameter (vs. ~14 times for *Trichinella* NBL) and as their tail is clearly tapered, we think they would be *L. loa* microfilariae, whose average size is typically 250×6 µm. The only way to conclude a precise identification of the parasite would be to perform molecular analysis on an alcohol-preserved sample of the pericardial effusion.

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### Data availability

No new data were generated in support of the article.

### References

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