

## Prolonged Clinical Course of Muscular Sarcocystosis and Effectiveness of Cotrimoxazole Among Travelers to Tioman Island, Malaysia, 2011–2014

TO THE EDITOR—In expansion to the international investigation of acute muscular sarcocystosis (AMS) among travelers to Tioman Island, Malaysia, 2011–2012, by Esposito et al [1], we would like to add some very recent clinical observations that we believe are important. Together with locally involved colleagues from several medical institutions in Germany, we have been diagnosing and following 39 travelers with muscular sarcocystosis since 2011 [2–4].

The disease described as AMS [1] should not be misunderstood by clinicians as being only a short-term infection. This parasitic zoonosis is characterized by a chronic infection of muscular tissue by *Sarcocystis* species [5], causing longer lasting and even chronic signs and symptoms in at least a subset of the infected travelers, following the acute initial episode.

From repeated follow-up visits and continuing patient contact also by telephone and e-mail following this international investigation [1], we can meanwhile specify the duration of symptoms and intensity of myalgia in the majority of our patients in more detail. Mean duration from onset of first symptoms to complete recovery was 4.2 months (median, 2.2 months; min 0, max 23 months; n = 35). Six of these patients had symptoms for >6 months; 2 are still experiencing recurrent episodes of weakness/fatigue and characteristic myalgia after 13 and 23 months, respectively, although in decreasing intensity.

Maximum severity of myalgia on a scale from 0 to 10 (0 = no pain, 10 = maximum pain) [3, 6] was reported to be 5.7 (median, 6.0; min 0, max 10; n = 36).

Trimethoprim and pyrimethamine have shown antiparasitic effects in cell and animal studies [7, 8]. Our later patients whom we had therefore offered treatment with cotrimoxazole (mostly 2 × 960 mg/day, for 10–20 days [3, 4]) reported a shorter duration of symptoms compared to previously treated patients (mean, 1.1 month; median, 0.7; min 0.25, max 2.2 months; n = 9, vs mean, 5.3; median, 3.0; min 0, max 23 months; n = 26; *P* = .032). The earlier cotrimoxazole treatment was initiated, the shorter the duration of symptoms tended to be (median of 0.6, 1.0, and 2.0 months if cotrimoxazole treatment was started during the initial acute phase, asymptomatic interval period, and later myositic stage of the disease, respectively; each n = 3).

Considering these follow-up data, we understand the clinical course of muscular sarcocystosis in humans due to *Sarcocystis nesbitti* [1–4] as an initial acute infection with unspecific febrile symptoms, leading to a chronic muscular parasitic infestation later, with the formation of sarcocysts. The latter stage is associated with prolonged and often relapsing myositic signs and symptoms, and elevated creatine kinase levels and eosinophilia. Duration and severity of symptoms with chronic muscular infection evidently show a wide interindividual variability. Further studies will need to investigate determinants for severity of disease, non-invasive diagnostic tests, and effective therapy.

### Note

**Potential conflicts of interest.** All authors: No reported conflicts.

All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

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