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EDITORIAL COMMENTARY

Are Pediatric Infections with *Lophomonas blattarum* Being Missed?

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The case series of 53 children with pulmonary *Lophomonas blattarum* infection by Quinling et al. is indeed an eye opener [1]. The vast majority of readers must not have even heard of this protozoan parasite given the fact that only a handful of cases (mostly in adults) have been reported so far.

Lophomonas blattarum is a multiflagellated protozoan parasite of the gut of cockroaches and termites. Inhalation of the insect feces loaded with the protozoan cysts is believed to cause infection in humans. The cysts transform into trophozites in the respiratory tract and cause chronic pulmonary symptoms of cough, fever, breathlessness, and hemoptysis. About half to one-third people have eosinophilia. Diagnosis is established by demonstrating the motile flagellated trophozoites in respiratory secretions (sputum, bronchoalveolar lavage). Treatment with standard doses of metronidazole for 7–14 d is highly effective [2].

Most of the cases till date have been reported from China and a few from other countries (Peru, Spain, Mexico, Iran, Malaysia, Turkey) [2]. Only a couple of cases have been reported from India [3]. However, the primary host the cockroach abounds all over the world and heavy infestation of poor dwellings is quite common. Hence, it is possible that cases elsewhere are being missed as the parasite will not be detected unless specifically looked for. Chronic respiratory symptoms with eosinophilia are often attributed to allergy, asthma, Loeffler syndrome, and filariasis, and are treated as such. The reporting of infections predominantly in the immunocompromised may be partly biased as these patients are likely to undergo more invasive procedures to establish etiologic diagnosis of nonresolving respiratory symptoms. Similarly, predominance of adult cases may be due to reduced awareness, nonavailability of appropriate sputum samples, and fewer bronchoscopic procedures in children. Diagnosis can be very rewarding since therapy with metronidazole is curative (a drug generally not used in empiric treatment of patients with chronic respiratory symptoms).

At the same time, there is the possibility of overdiagnosis due to the similar appearance of ciliated respiratory epithelial cells. Interestingly, a recent publication disputed all reported cases of *L. Blattarum* [4]. However, a recent report from Iran confirmed the infection by a molecular test [5].

Quniling et al. have convincingly demonstrated a causal association between the *L. blattarum* in the respiratory secretions and pulmonary symptoms in the affected children since all children improved with treatment. It is surprising though, that none of the caretakers of the affected children gave history of exposure to cockroaches. While the authors do mention that the "parasite could no longer be detected" following treatment, it is not clear whether a follow-up bronchoscopy was done in all patients. Other limitations of the study include retrospective nature, single center data, absence of details of the socioeconomic status of the study patients, no details of prior illnesses, and treatment and absence of any radiographic images of the study patients. Follow-up and issue of reinfection (which could occur since the children return to the same environment) is also not addressed by the study.

So is the lack of reports of *L. blattarum* from other parts of the world due to poor awareness or due to unique socioenvironmental factors in China? Notwithstanding this, children with chronic pulmonary symptoms belonging to any geographic area should be evaluated for this protozoan infection if other causes are ruled out.

Compliance with Ethical Standards

Conflict of Interest None.

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