

Imported giardiasis and metronidazole treatment failure in returning travellers, Prague, 2016–2025

Vyacheslav Grebenyuk^{1,2}, Vyacheslav Grebenyuk, Milan Trojáněk¹, Aneta Perglerová³, Pavla Tůmová³, Eva Nohýnková³, Ivana Zicklerová⁴, Lenka Richterová⁴, František Stejskal^{2,3,5}

¹ Department of Infectious Diseases and Travel Medicine, 2nd Faculty of Medicine, Charles University and University Hospital Motol, Prague, Czech Republic, ² Department of Infectious Diseases, University Hospital Bulovka, Prague, Czech Republic, ³ Institute of Immunology and Microbiology, 1st Faculty of Medicine, Charles University, Prague, Czech Republic, ⁴ Department of Microbiology, University Hospital Bulovka, Prague, Czech Republic, ⁵ Department of Infectious Diseases, Regional Hospital Liberec, Czech Republic

Background: Giardiasis is a frequent cause of persistent gastrointestinal symptoms in returning travellers. Metronidazole treatment failure has been increasingly reported, particularly after travel to South Asia.

Materials and Methods: We retrospectively analysed laboratory-confirmed cases of giardiasis diagnosed at the National Reference Laboratory for Tropical Parasitic Diseases (2016–2025). Diagnosis was by stool microscopy and/or PCR. Data are presented as median (IQR) or n (%). Categorical variables were compared using Fisher's exact test.

Results: Giardiasis was diagnosed in 184 patients (57.1% male; median age 32 years, IQR 26–42; 10.3% aged <18 years). Most infections were travel-associated, predominantly acquired in South Asia (77; 41.9%), Africa (43; 23.4%), and Southeast Asia (21; 11.4%), with a median duration of stay of 21 days (IQR 14–36). Of 167 patients with available clinical data, 154 (92.2%) were symptomatic; the most common symptoms were diarrhoea (85.0%), abdominal pain (46.1%), and bloating (40.1%). Of 120 patients treated with metronidazole who underwent parasitological follow-up, 46 (38.3%) experienced diagnostically proven treatment failure, which was strongly associated with travel to South Asia (OR 6.26, 95% CI 3.0–13.2; $p < 0.001$). Second-line tinidazole plus albendazole was used in 43/46 cases, with only three documented failures.

Conclusion: Metronidazole-refractory giardiasis is common in travellers returning from South Asia, affecting more than one-third of treated patients. Tinidazole/albendazole combination therapy appears highly effective as a second-line regimen. The limited availability of these agents in Europe poses a practical barrier to standardised management.