

## Recurrent giardiasis

Recurrent giardiasis is not uncommon – up to half of untreated patients may go on to develop recurrent or chronic symptoms. Even with treatment resistance to 5-nitroimidazoles is increasing and has been reported to be as high as 40.2% in the UK [Clin Micro Inf 2015; 21(8): 791-6] with the majority of these cases being acquired in India.

Acute giardiasis has been shown, in small studies [Dig Dis Sci. 2005;50(2):259 n=54] to affect lactose absorption.

In hyperendemic areas re-infection is quick and very common with nearly 100% of children infected [Lancet 1988; 1: 343-345].

When assessing a patient with on-going symptoms following confirmed *G. lamblia* infection, consider whether it could be:

- a) Resistance to initial therapy,
- b) reinfection, or
- c) post-infectious malabsorption

### **a) Resistance to Treatment:**

Treatment-refractory cases of giardiasis are increasing and likely due to nitroimidazole resistance. India and Africa are the commonest sources of treatment-refractory cases, at 69.9% and 12.3% respectively, compared with only 2.7% of European cases being treatment-refractory [Clin Micro Inf 2015; 21(8): 791-6]. Resistance cannot be detected in the routine microbiology laboratory, and should be determined clinically. See flowchart below [based on guidance from the London School of Hygiene and Tropical Medicine and *Curr Op ID* 2020; 33: 355-364].

### **b) Reinfection:**

Reinfection is common; likely due to the low infectious dose of only 10 cysts required to cause disease, the high volume of excretion of cysts from infected individuals (1-10 billion cysts/day), 15% of infected individuals are asymptomatic, and the environmental hardiness of the cysts (lasting months).

#### **Risk factors for and prevention of reinfection include:**

- Attention to exquisite personal hygiene including hand washing with soap and water (**not** hand-gel). High risk activities include handling nappies of infected children, cleaning up animal faeces, gardening, etc.
- Avoid drinking contaminated water – consider a contaminated independent water supply that may need testing.
- Avoid swimming in contaminated water: pools, lakes, rivers, ponds, Jacuzzis, etc. Do not return to communal swimming venues until asymptomatic for >2-weeks post-treatment.
- Avoid eating contaminated foods without washing and/or cooking. Potentially faecally contaminated foods include: spinach, lettuce, herbs, strawberries, potatoes, carrots, oysters, mussels, organic foods grown in infected manure, etc.
- Consider potential sexual exposure, especially in men who have sex with men.
- Contact with animals (especially young animals) with diarrhoea is an exposure risk; consider seeking veterinarian opinion regarding treatment.

- Check history of **immunosuppression**: HIV (low threshold for testing), cystic fibrosis, hypogammaglobulinaemia, X-linked agammaglobulinaemia, IgA deficiency, etc.

### **c) Post-infectious sequelae:**

**Lactose intolerance: may last >1 month:** the primary site of *G. lamblia* infection is the small intestine, resulting in villous atrophy, brush border loss, loss of disaccharidase enzymes, and hence the development of temporary lactose intolerance.

Consider counselling the patient on a lactose-free diet for one or more months after treatment, particularly if there are predominantly irritable bowel-like symptoms, and repeat stool testing is negative for *G. lamblia*.

For complicated cases, contact the on-call **medical microbiologist** on **01392 402962** or email: [rde-tr.MicroConsultants@nhs.net](mailto:rde-tr.MicroConsultants@nhs.net)

