

Strongyloides in MSM

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BACKGROUND

Multiple organisms are related to men who have sex with men (MSM) but emerging reports of cases involving *Strongyloides* in MSM highly unusual. It is very uncommon to have *Strongyloides* via sexual intercourse.

Strongyloides stercoralis is a parasitic worm with a complex life cycle and can cause significant morbidity, including a proctocolitis and life-threatening hyperinfection syndrome¹.

It is predicted that global population prevalence of 8.1%, equating to 613 million affected people concentrated in Southeast Asia, Africa and the Western Pacific.³

Strongyloidiasis can present with cutaneous, re-spiratory and/or gastrointestinal symptoms.^{4,5} Most patients are asymptomatic; symptomatic individuals present with skin rash (Larva currens); respiratory symptoms including cough and wheeze (eosinophilic pneumonia or Löfller's syndrome); or gastrointestinal symptoms (abdominal pain, bloating and diarrhoea).^{6,7}

Reports of *S. stercoralis*, including hyperinfection syndrome in men who have sex with men (MSM), particularly MSM living with HIV, suggest that some sexual transmission may occur.⁸

HISTORY

An 80 year old Irish male presented with a a month history of abdominal pain and profuse watery diarrhoea. There were no other symptoms of melena, fever, rash, dysentery, or lower urinary tract symptoms. The patient was not taking any regular medication and had not received antibiotics recently. He had no recollection of sick contacts and was not in contact with healthcare environments.

The patient disclosed that he had attended a sex party while abroad in London and had multiple episodes of receptive oral sex with casual male partners. He was not taking pre-exposure prophylaxis for HIV. The patient had no history of travelling to endemic areas known to harbour *Strongyloides stercoralis*. He had no unlicensed exotic pets.

The patient attended the Emergency Department and was isolated pending investigations. Stool PCR testing was positive for *Shigella*, *Campylobacter* but negative for *Enterotoxigenic E coli*, *Salmonella* and *Clostridium difficile*. Full blood count (FBC) demonstrates that white cell count with raised eosinophils which posed a possible parasitic infection.

C-reactive protein was also raised. Rectal nucleic acid amplification testing was negative for *Neisseria gonorrhoea* and *Chlamydia trachomatis*. Further testing for stool ova and parasites was sent to Cherry Orchard Hospital. *Strongyloides stercoralis* larvae were identified in stool. HIV, Hepatitis B, Hepatitis C and syphilis testing was subsequently found to be negative.

The patient was treated with ivermectin 200mg/kg/day orally for two days for intestinal disease. As the patient was not otherwise immunocompromised there were no signs suggestive of a hyperinfection syndrome. The patient recovered promptly with treatment and was counselled on the importance of protected sexual practices.

DISCUSSION

Strongyloides is not a known organisms that it passed through vertical transmission or sexual intercourse but more reports are coming out reporting incidence of *Strongyloides* relating with sexual activity. Understanding the (sexual) transmission dynamics of *S.stercoralis* in MSM and any associated factors will provide insight for future clinical guidelines and public health control strategies. This systematic review aimed to explore the associated factors for *S.stercoralis* in MSM.¹

In the context of this patient, he presented with gastrointestinal symptoms such as vomiting and abdominal pain with no travel to tropical or endemic areas where *Strongyloides* are reported are reasons why *Strongyloides* was not considered in the first place. With the fact that *Strongyloides* is not commonly related to sexual activity highly disregard our differentials in the initial stage of treatment.

Emerging infectious diseases and outbreaks in the context of multiple sexual partners has been identified previously; *lymphogranuloma venerum*, *shigella*. *Strongyloides stercoralis* is a rare entity in this context but however is most certainly emerging as a novel pathogen, one report of 7 men who have sex with men (MSM) with human immunodeficiency virus (HIV) was reported in recent times.⁸

The (sexual) transmission dynamics of enteric infections in MSM are not well understood; asymptomatic carriage is common, and poor surveillance mechanisms have impacted our understanding of the risk behaviours associated with sexual transmission.⁹

There are recent reports suggesting significant outbreaks of antimicrobial drug-resistant enteric infections in MSM in the UK and Australia have led to significant morbidity; however, there continues to be a lack of public health control strategies.¹⁰⁻¹²

The trajectory of this phenomenon remains to be seen but practitioners should consider this pathogen in patients with symptoms and high risk sexual exposure. With more and more incidence of cases of *Strongyloides* and sexual activity seemingly to be reported, clinicians should consider *Strongyloides* as one of the differentials when approaching treatment plan for patients.

Salmonella DNA	Not Detected	--	org number	1
Shigella spp.	Isolated		ANTIBIOTIC	R
Campylobacter DNA	DETECTED		Ampicillin	R
Campylobacter spp.	Culture negative		Azithromycin	R
C.difficile -	Not Detected		Cefepime	R
tdcA/B-DNA			Cefotaxime	R
			Ciprofloxacin	S
			Mergensam	S
				S = Sensitive, R = Resistant, I = Intermediate
Dye & Parasites		Organism isolated		
Wet Prep Result	Strongyloides stercoralis larvae	1. Shigella sp.		
Giardia sp.	Detected			
	DNA Not			
Cryptosporidia sp.	Detected			
	DNA Not			
E. histolytica	Detected			
	DNA Not			
	Detected			

Cherry Orchard Hospital results confirming that patient has ongoing active *Strongyloides* infection with *Shigella* and *Campylobacter* isolated

Shigella sp /EIEC DNA
Result: Shigella sp. or EIEC DNA DETECTED. Suggests infection due to Shigella sp. or Enteroinvasive E.coli (EIEC). Please interpret in conjunction with clinical picture and the culture report from the same specimen.
Verotoxin producing DNA Not Detected
Campylobacter sp DNA Result:
Campylobacter sp. (jejuni or coli) DNA DETECTED. Suggests infection due to Campylobacter sp (jejuni or coli). Please interpret in conjunction with the clinical picture.

Initial test done in OLOL revealing *Shigella* and *Campylobacter* on samples sent to Microbiology Lab

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