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Letter to the Editor

LETTER TO THE EDITOR

Should prospective renal transplant recipients be screened for *Strongyloides stercoralis*?

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Strongyloidasis is a neglected tropical disease caused by *Strongyloides stercoralis*, which affects >100 million people, largely in Africa, Asia and Latin America [1, 2]. Chronic infection can persist for decades, and may be asymptomatic or cause gastrointestinal, cardiopulmonary or skin symptoms [3]. In some individuals with specific types of immune suppression (e.g. exogenous corticosteroids and organ transplantation), rapid replication and dissemination of larvae result in *Strongyloides* hyperinfection syndrome (SHS), a condition characterized by acute severe illness and high mortality (Figure 1) [4].

In 2019, we looked after an Angolan gentleman with renal transplantation who developed SHS and sadly died [5].

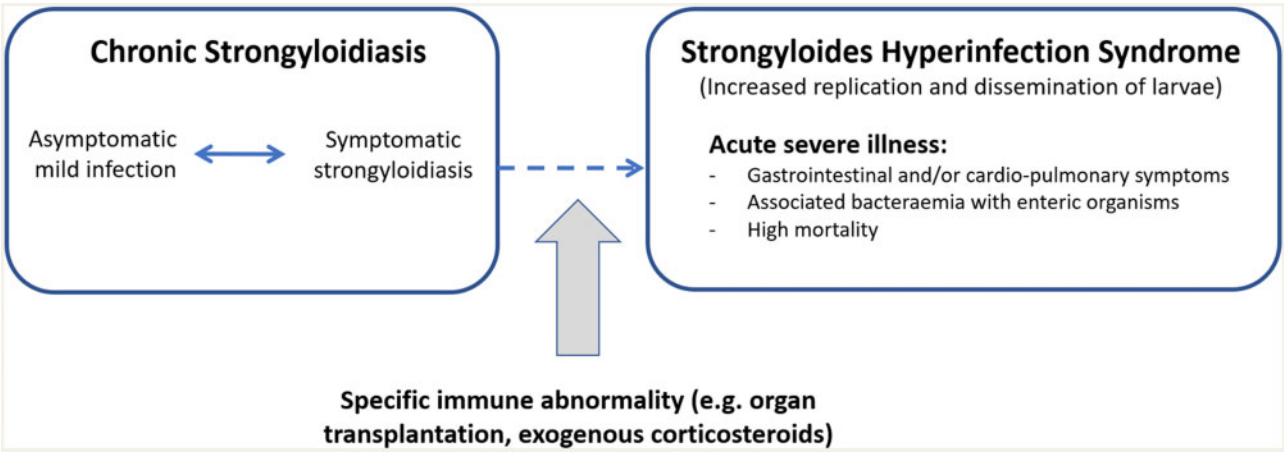

FIGURE 1: Spectrum of human disease caused by *S. stercoralis*.

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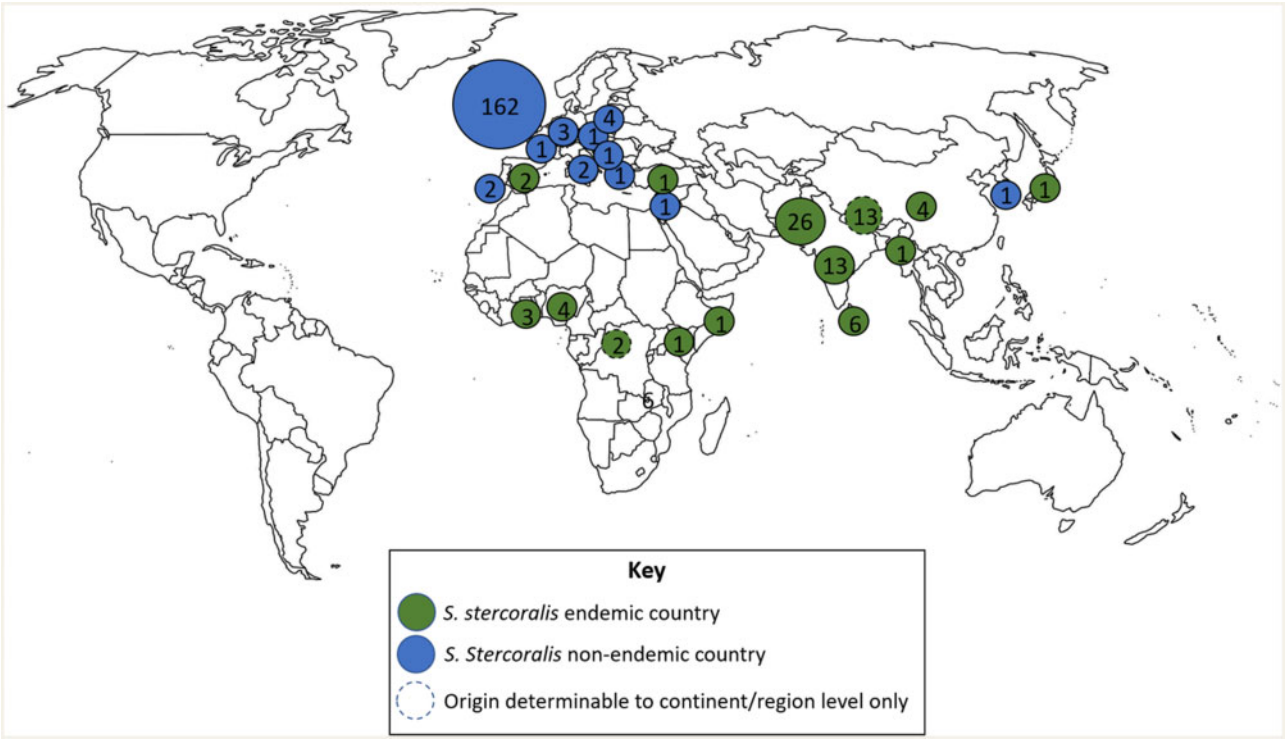

FIGURE 2: Global map displaying our transplant recipients' ethnic origin and demographic risk of strongyloides. Numbers within circles display number of individuals.

We subsequently reviewed 264 renal transplant recipients at our centre and found that 30% could be at risk of strongyloides based on their likely ethnic origin, which we determined using *Onolytics*, a software that assigns the most probable origin of each individual based on first name and surname [6] (Figure 2). Eosinophilia prior to transplantation was significantly more common in this group (49% versus 36%; $P = 0.049$), as was enteric bacteraemia after transplantation (10% versus 4%; $P = 0.046$). These could indicate undiagnosed infection. Despite this, none had been tested. Overall mortality of transplant recipients was low (6% after a median follow-up duration of 4.5 years) and was not associated with country of origin.

In the UK, there are no community-level or transplant clinic data suggesting the prevalence of strongyloidiasis. However, a recent systematic review of migrants originating from endemic countries and arriving/living in any non-endemic country found a pooled *S. stercoralis* seroprevalence of 12.2% [7]. Office for National Statistics data showed that 7.4% of individuals living in the UK were born in Africa, Asia or Latin America [8]. Therefore, somewhere in the region of 0.9% of individuals receiving renal transplantation in the UK could be seropositive for strongyloides.

The risk of SHS in seropositive individuals who undergo organ transplantation is not known. A retrospective study in Brazil identified 46 cases among 15 860 transplant recipients (0.3%), but most of these had received pre-emptive anthelmintic treatment [9]. Despite this, international [10] and US [11] transplantation guidelines make pragmatic recommendations for serological screening of potential recipients. An alternative approach would be routine treatment of at-risk individuals using ivermectin (a drug that is both safe and effective for chronic strongyloidiasis) [12]. UK guidelines only recommend testing for tropical infections in prospective donors [13].

We would urge clinicians to consider strongyloidiasis in renal transplant recipients if they have ever lived in the tropics. Serological screening (or treatment based on demographic risk factors alone) may be beneficial and should be considered for inclusion in transplantation guidelines.

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CONFLICT OF INTEREST STATEMENT

None declared. The results presented in this article have not been published previously in whole or part, except in abstract format.

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