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Strongyloides Hyperinfection Syndrome in a Patient with Asymptomatic COVID-19 Infection

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Strongyloides stercoralis is a nematode infecting the proximal small bowel of humans. Although it is endemic to large swathes of the globe, it is not a parasitic infection commonly encountered in Ireland. Strongyloides hyperinfection syndrome (SHS) occurs when this chronic infection becomes uncontrolled, either in the GI tract or systemically. Many different causes have been identified but most are secondary to immunosuppression, notably exogeneous corticosteroids and HIV[1]. Several case reports have been published since the beginning of the COVID-19 pandemic describing SHS in COVID-19 patients[2]. All these cases describe hyperinfection in the setting of corticosteroid administration to treat COVID pneumonitis. However, we treated a patient with concurrent SHS and COVID-19 in the absence of steroids.

A 60-year-old lady born in Nigeria, but living in Ireland for over 20 years, was diagnosed with COVID-19 after being classified as a close contact of a positive case. She had no significant past medical history and took no medications. She developed a sudden onset central, cramping abdominal pain within 24 hours of her COVID diagnosis and presented to the local Emergency Department. A diagnosis of constipation was made, and the patient discharged. She re-presented to the Emergency Department nine days later with worsening abdominal symptoms and was diagnosed with a small bowel obstruction. She had no symptoms of COVID-19. A CT scan of the abdomen and pelvis demonstrated a small bowel obstruction with a transition point in the pelvis.

The patient's obstruction failed to settle with conservative management, and she was taken to theatre. Diagnostic laparoscopy demonstrated small bowel inflammation with adhesions causing a previously unrecognised internal hernia, with bowel concerning for compromise. Laparoscopy was converted to small laparotomy, the adhesions removed, and the bowel resected with primary anastomosis formation.

Pathological analysis of the small bowel resection confirmed the presence of parasites in the specimen, however strongyloides serology was not confirmed until day 30 post-operatively. A focused history for potential exposure to parasites was taken, which showed our patient had no travel history beyond the UK since her move to Ireland from Nigeria 22 years prior nor did she receive food from Africa.

On day 30 post-operatively, six weeks following her initial presentation to hospital and diagnosis with COVID-19 infection, strongyloides serology was confirmed to be positive; she was given two doses of oral Ivermectin. Since then, she has done well, has required no further treatment, and has no further COVID-19 or strongyloidiasis symptoms.

It is unclear why this patient developed SHS in the setting of asymptomatic COVID-19 infection, and, although unlikely, it may be coincidental. Infections known to cause SHS are those that cause a significant T-cell response, namely HIV and HTLV-1[3]. It is well known that operations during COVID-19 infection have been associated with poorer outcomes[4]. Thankfully, this patient did very well from both an operative and infectious disease point of view.

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