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Covid-19-related pancreatic injury

Editor

We read with great interest the Leading Article by Spinelli and Pellino[1], highlighting their experience of the COVID-19 pandemic currently gripping the world. We were particularly drawn to their description of COVID-19 patients presenting with gastrointestinal symptoms mimicking surgical diseases, specifically a 'pancreatitis-like clinical presentation'. Our initial observations as UK surgeons amidst this outbreak are similar.

We observe that this contrasts with the largest published Chinese case series demonstrating that gastrointestinal symptoms are uncommon (approximately 5 per cent), with only mild biochemical liver function derangements (10 to 20 per cent)[2] and our existing knowledge that viral infection is an uncommon cause of acute pancreatitis, usually resulting only in mild inflammation[3]. Furthermore, there are no published reports to date of coronavirus-induced pancreatitis, including other *Coronaviridae* like those causing SARS and MERS.

We argue, however, the potential for pancreatic injury remains. Pancreatic cells highly express angiotensin-converting enzyme 2 (ACE2)[4], the transmembrane protein required for SARS-CoV-2 entry. Patient cohorts with approximately 40 per cent of COVID-19 patients presenting with gastrointestinal symptoms, including abdominal pain, exist[5]. Additionally, up to 16 per cent of patients with severe SARS-CoV-2 infection have raised serum amylase and lipase, with 7 per cent displaying accompanying significant pancreatic changes on CT[4]. Crucially, the rate of increase of COVID-19 is phenomenal, with now over 2 500 000 documented cases globally (8177 for SARS and 2494 for MERS)[6], meaning atypical COVID-19 presentations and surgical pathology with concomitant COVID-19 are more likely, such as acute pancreatitis, which may have poorer outcomes secondary to a double pulmonary insult. Considering this, we hypothesize that COVID-19-associated pancreatic dysfunction may exist.

An assessment of COVID-19 status should take primacy when assessing the acute surgical patient, with due consideration of lymphocyte count and chest X-ray. A crucial deficiency in abdominal pain reporting and serum amylase measurement exists in the international literature, requiring urgent rectification. Only with global collaborative research networks that grow as rapidly as the pandemic, will we be able to evaluate the significance of this clinical phenomenon and how best to treat it.

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