The COVID-19 conundrum: SARS-CoV-2 is not present in bile

Editor

Against the backdrop of the COVID-19 pandemic, surgeons have rapidly modified their practices to strike a balance between delivering timely operative intervention and minimizing nosocomial spread of COVID-19 to patients and healthcare workers alike[1,2]. Guidelines by various surgical committees advocate postponement of elective surgeries, however emergency procedures often cannot be delayed, especially in the setting of uncontrolled sepsis[3,4]. We describe here our recent experience managing a COVID-19 positive patient with gangrenous cholecystitis.

A middle-aged male who presented with fever and productive cough 3 days prior to admission was admitted for observation following a positive nasopharyngeal SARS-CoV-2 polymerase chain reaction (PCR) swab. On the ninth day of hospital stay, he developed worsening abdominal pain. Computed tomography scan demonstrated gangrenous cholecystitis which precluded the options of conservative management or percutaneous cholecystostomy, hence he was counselled for surgery. During an initial laparoscopic approach, intraoperative peritoneal fluid samples were obtained, followed by needle aspiration of bile from the grossly distended gallbladder in order to facilitate manipulation. He subsequently underwent open conversion and subtotal reconstituting cholecystectomy. A surgical drain was inserted, and a second peritoneal fluid sample was collected prior to abdominal closure. Intraoperative peritoneal fluid samples, aspirated bile as well as fluid from the drain on first post-operative day were sent for SARS-CoV-2 PCR analysis. All four samples were negative for the virus.

SARS-CoV2-RNA has been isolated in blood and feces, while there are conflicting experiences regarding its presence in peritoneal fluid[5,6]. To the best of our knowledge, this is the first report of bile analysis for the presence of SARS-CoV-2. Performing careful needle aspiration of the bile under vision directly from the gallbladder allowed us to avoid contamination by blood or other peritoneal fluids which may affect the accuracy of the PCR testing. Anecdotally, we have observed that some surgeons hesitate from performing index admission cholecystectomy for COVID-19 patients with acute cholecystitis, in order to minimize the risk of viral transmission. It is well established that these individuals are at risk of recurrence during the waiting period for interval surgery, and oftentimes may develop severe complications[7]. By demonstrating the absence of the virus in both intra- and postoperative bile samples, we hope to allay these fears within members of the surgical community, such that we may continue to follow best practices. We acknowledge that this is an isolated experience, and a larger series is required to validate this finding. However, given that surgeries for COVID-19 infected patients will be few and far between, we hope our report will contribute to the formulation of future guidelines for the management of COVID-19 positive patients requiring urgent intervention for hepatobiliary sepsis.

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