Laparoscopic Duodenal ulcer perforation closure in a COVID 19 positive patient with a large abdominal aortic aneurysm.

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Introduction:

- Laparoscopic repair of duodenal ulcer (DU) perforation has become the standard of care of in acute care settings. However, Laparoscopic repair of acute DU perforation in patients with abdominal aortic aneurysm (AAA) is not much reported in literature.
- There is one reported case of DU perforation closure in COVID 19 patient from China.
- During this pandemic, we report a case of laparoscopic closure of DU perforation in COVID 19 positive patient with AAA.

Case Presentation:

- 81-year-old male with history of COPD and hypertension, admitted with COVID 19 positive pneumonia and upper abdominal pain.
- He was in mild distress with tachypnea and tachycardia. CT scan of the abdomen showed pneumoperitoneum with duodenal inflammation.
- Incidentally he was noted to have 5.8 x 5.6 x 7.8 cm infrarenal AAA. He was consented for laparoscopic DU perforation closure.
- Given his COVID 19 positive status, we followed strict contact precautions and scheduled surgery in negative pressure operating room.
- Diagnostic laparoscopy showed pulsating fullness in central abdomen from the large AAA and 300 cc of bile tinged fluid in abdomen and DU perforation of size about 1 cm identified.
- Laparoscopic closure of the perforation with silk and omental graham patch was performed.
- We performed gastrografin study on postoperative day (POD) #2, which showed no evidence of leak. Subsequently he was started on clear liquids and diet advanced as tolerated.
- He was discharged to a long-term acute care facility on POD # 5.
- All the operating room staff who were involved in this case were on observation for COVID 19 symptoms for ten days and none of them had any symptoms.



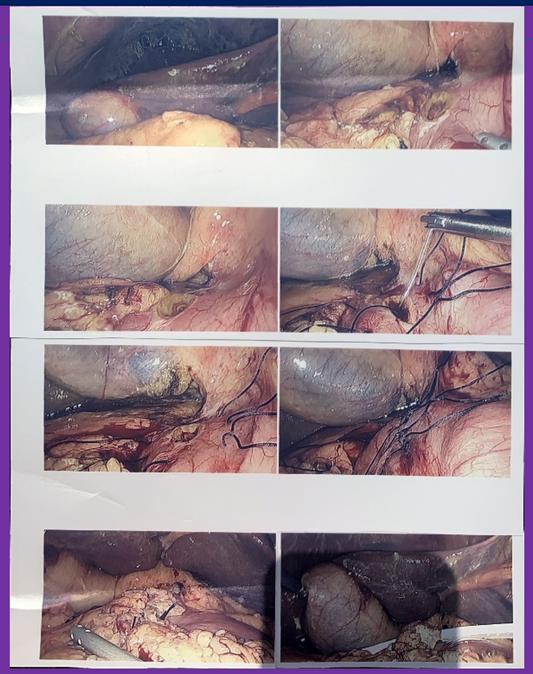
CT scan axial showing pneumoperitoneum



CT scan coronal and sagittal section showing aneurysm and free fluid and pneumoperitoneum



Gastrograffin study on POD# 2 , with no evidence of leak



Laparoscopic view showing duodenal ulcer perforation closure

Discussion:

- ❖ Peptic ulcer disease is common in patients with AAA.
- ❖ During laparoscopic surgery in patients with AAA, it is very important to keep a close watch on all the instruments going in and out of the trocars, especially the needles to avoid any catastrophic complications like major bleeding by inadvertently injuring the aneurysm.
- ❖ It is very easy to run into the aneurysm if proper care is not taken while placing trocars.
- ❖ Regarding COVID 19 status, contact precautions and operating in negative pressure room and minimizing the traffic operating room will prevent any risk of cross contamination and spread of virus.

Conclusion:

Laparoscopic DU perforation closure can safely be performed in COVID 19 positive patients with large AAA if proper contact precautions and basic laparoscopic surgical principles are followed.