INCREASING D-DIMER VALUES AND MESENTERIC ISCHEMIA COMPLICATIONS IN CRITICAL ILL SARS-CoV-2 PATIENTS

Jennifer M Ford MD* , Michael J Kohlman MD*, Eduardo Smith-Singares MD FACS*

*Department of Trauma & Acute Care Surgery, Kadlec Regional Medical Center, Richland, WA

BACKGROUND

A well documented complication of SARS-CoV-2 (COVID-19) infection is an inflammatory hypercoagulable state. One significant sequala can include mesenteric ischemia. Both large vessel thrombosis and small vessel microthrombi have been documented in the literature. Infected, critically ill patients pose a particular diagnostic challenge as they are often ventilated, sedated and paralyzed. Prophylactic therapeutic anticoagulation remains high risk with many bleeding complications and adverse outcomes. However, mesenteric ischemia is often diagnosed late in these patients with devastating consequences.

METHODS & PROCEDURES

Between June 2021 and September 2021, during the delta variant surge of COVID -19, four patients were operated on emergently for acute mesenteric ischemia. All patients were already admitted to the intensive care unit, ventilated with COVID-19 pneumonia. Observational retrospective data was collected for these patients.

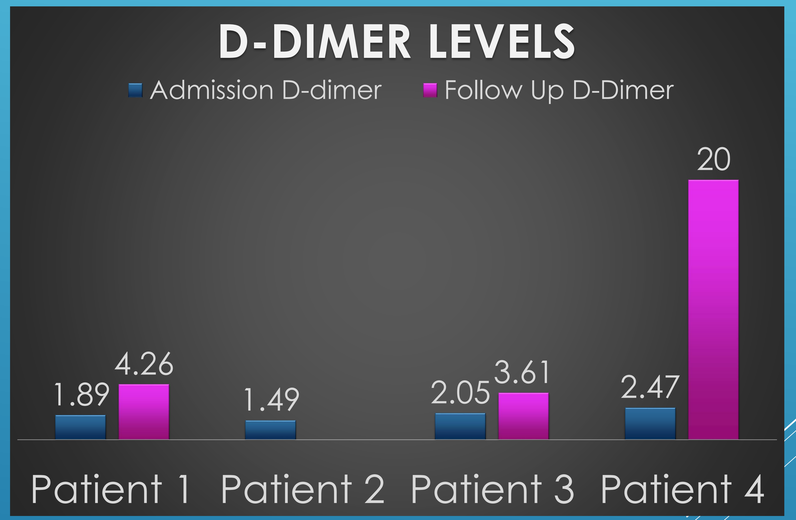
RESULTS

From June 2021 to September 2021, 22 patients were admitted to the intensive care unit with COVID-19 pneumonia as a primary diagnosis, requiring mechanical ventilation.

Four patients were diagnosed with acute mesenteric ischemia requiring emergent surgical intervention.

The average age was 56 years old; all were male and hypertension was the most common co-morbidity.

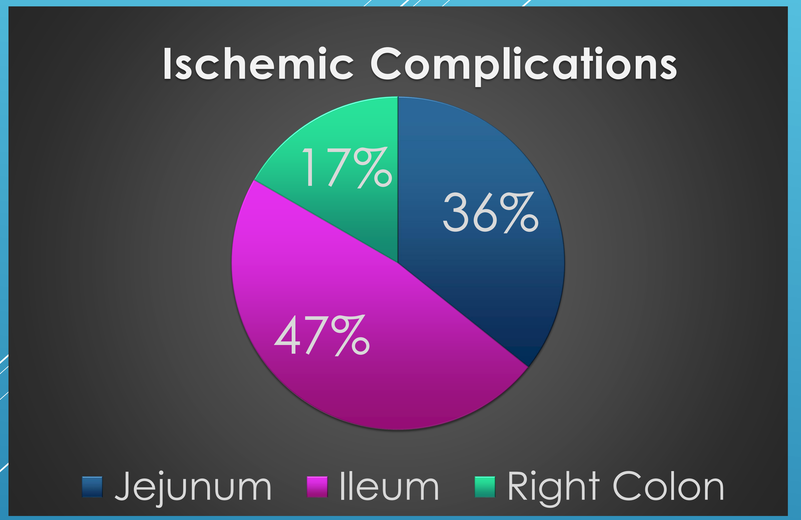
RESULTS



Three of 4 patients had admission imaging to evaluate for thrombosis (Duplex US LE or CT-angiography) of which all were negative. Patients developed mesenteric ischemia on hospital day 4, 7, 11 and 16.

No patient was on therapeutic anticoagulation at the time of diagnosis.

One patient was diagnosed with SMA thrombus with ischemia of right colon, jejunum and ileum (D-dimer >20.0). Two patients demonstrated ischemia of jejunum and ileum (D-Dimer 4.26, 3.61). The fourth patient demonstrated ischemia of the ileum and right colon.



One patient died of Covid complications, while 3 others were discharged to skilled nursing facilities.

CONCLUSIONS:

As knowledge of COVID-19 rapidly accelerates, the diagnosis of mesenteric ischemia in critically-ill patients remains difficult. Serial D-dimer values in addition to other diagnostic methods may assist in the detection of mesenteric ischemia in mechanically ventilated COVID-19 patients.