Introduction Elevated inflammatory markers in COVID-19 infection are predictive of disease severity and mortality. It is unclear if these markers are associated with severe disease in patients with cancer due to underlying tumor related inflammation. We sought to further understand the inflammatory response related to COVID-19 in gynecologic cancer patients.

Methods Patients with history of gynecologic cancer hospitalized for COVID-19 infection with available laboratory data were identified. Laboratory values at the time of hospital admission and clinical outcomes were abstracted from electronic medical records. Severe infection was defined as infection requiring ICU admission or resulting in death.

Results 86 patients with gynecologic cancer were hospitalized with COVID-19 infection with median age of 68.5 years (interquartile range (IQR), 59.0 to 74.8 years). Of the 86 patients, 29 (33.7%) patients required ICU admission and 25 (29.1%) patients died of COVID-19 complications. There were 36 (41.9%) patients in remission and 50 (58.1%) had active disease. Patients with severe infection had significantly higher ferritin (median 1163.0, IQR 640.0–1967.0) and C-reactive protein (CRP) (median 142.0, IQR 62.5–217.1) levels than those with non-severe disease (median 624.0, IQR 269.7–954.0, P=0.01; median 62.3, IQR 13.0–159.1, P=0.02 respectively) (table 1). White blood cell count, absolute neutrophil count, and lactate were also associated with severe disease. Procalcitonin and D-Dimer levels were not significantly associated with severe disease (P=0.2; P=0.7 respectively).

Conclusion/Implications Inflammatory markers (ferritin and CRP) in gynecologic cancer patients are associated with COVID-19 severity and can be used as prognostic markers at the time of admission.