FAQ: What is the Role of Estrogen and/or Progesterone in COVID-19?

Based on initial mortality data from China and Italy, male patients are experiencing increased morbidity and mortality from COVID-19 as compared to their female counterparts.1-6 One hypothesis for this differences is that female sex hormones such as estrogen and progesterone, may offer a protective benefit in patients with COVID-19 and explain poor outcomes among males. Currently, two clinical trials in the United States are seeking to evaluate these potential therapies:

1. Stony-Brook in Long Island, New York has a registered clinical trial evaluating whether estradiol 100mcg/day patches for 7 days in non-intubated men and post-menopausal women will reduce the severity of COVID-19 compared to placebo. Primary outcomes in this study include rates of hospitalization, intubation, intensive care unit transfer, and death at 30 days.7

2. Cedars-Sinai in Los Angeles announced in a recent press release that they will soon begin a trial of progesterone in men for COVID-19. The authors shared that they favored progesterone over estrogen due to its anti-inflammatory properties. This trial is not currently registered on clinicaltrials.gov.8

While the hypothesis is compelling, critics have pointed out that even elderly women, who have a decrease in these hormone levels, have more favorable mortality than their male counterparts which suggests additional factors may contribute to COVID-19 mortality.8 Additionally, mortality remains low among pre-pubescent children.9-10

Currently, DASON does not endorse estrogen or progesterone for the treatment of COVID-19 outside of the clinical trial setting. This is an emerging area of research and data from clinical trials in human subjects are needed to fully evaluate the safety and potential efficacy of this therapy.

References: