2. Using an inguinal hernia mouse model that mimics the hernia pathophysiology of elderly men with estrogen excess and testosterone deficiency, we defined a specific population of estrogen-sensitive fibroblasts responsible for fibrosis and weakening of lower abdominal skeletal muscle tissue associated with hernias. We provide an insight into the specific disease-causing fibroblast populations and molecular targets that may be the basis for future therapeutics to prevent or treat inguinal hernias.

Abstract citation ID: bvac150.1513

Steroid Hormones and Receptors
RF03 | PMON303
Serum 25-Hydroxyvitamin D Concentration Significantly Decreases in COVID-19 Patients With Pneumonia During the First 48 Hours After Hospital Admission
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Objectives: Although 25(OH)D is generally considered the best marker for assessing vitamin D body stores, its role as a marker during acute illness is less well established. Indeed, acute inflammatory insult may reduce circulating 25(OH)D. The objective was to examine serum 25(OH)D levels during the evolution of acute COVID-19 pneumonia.

Material and methods: This pilot study was undertaken as a prospective cohort study. Patients with severe COVID-19, defined as clinical signs of pneumonia and respiratory rate > 30 breaths/minute or severe respiratory distress or oxygen saturation < 90% on room air, were admitted to the internal medicine department between 1 November and 31 December. Blood samples were taken on admission (day 0) and every 24 hours for the subsequent four days (days 1-4). Patients were not supplemented with vitamin D preparations during the monitoring period. All patients received 6 milligrams of dexamethasone daily during the monitoring period.

Results: 22 patients (6 females, 16 males; median age 60.6 years) were included. On admission, 59% of patients were 25(OH)D sufficient (>30 ng/ml), and 41% of patients had 25(OH)D inadequacy (<30 ng/ml) according to the existing guidelines. A significant fall in mean 25(OH)D concentration from admission to day 2 (first 48 h) was observed (30.7 ng/ml vs. 26.4 ng/ml; p<0.0001). No subsequent significant fall in 25(OH)D concentration was observed between day 2 and 3 (26.4 ng/ml vs. 25.9 ng/ml; p=0.2300) and day 3 and day 4 (25.8 ng/ml vs. 25.9 ng/ml; p=0.7026). The absolute 25(OH)D change between hospital admission and day 4 was 4.8 ng/mL (p<0.0001) and was not associated with mortality or the need for high flow oxygen (p=0.2113 and p=0.6467, respectively). On day 4, the number of patients with 25(OH)D inadequacy (<30 ng/ml) increased by 18% (p=0.0180).

Conclusions: Serum concentration of 25(OH)D decreases significantly during the first 48 hours after hospital admission in acutely ill COVID-19 patients and should be therefore interpreted with caution. Whether low 25(OH)D in COVID-19 reflects tissue level vitamin D deficiency or represents only a laboratory phenomenon remains to be elucidated in prospective randomized trials of vitamin D supplementation.

Presentation: Saturday, June 11, 2022 1:30 p.m. - 1:35 p.m., Monday, June 13, 2022 12:30 p.m. - 2:30 p.m.