P5-97 | High-dose methylprednisolone in combination with tocilizumab in hospitalized patients with critical COVID-19 pneumonia: A case series

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Background: The RECOVERY trial has demonstrated that Tocilizumab and low dose corticosteroid reduces the risk of death when given to patients with severe COVID-19. (Lancet. 2021; 397: 1637-45) Therefore, some guideline recommends the usage of Tocilizumab in addition to low-dose corticosteroids among hospitalized patients with progressive severe or critical COVID-19. In the prospective triple-blinded randomized controlled trial in Iran, high-dose methylprednisolone demonstrated better results compared to dexamethasone (BMC Infect Dis. 2021 Apr; 21(1):337). The RECOVERY Trial is currently testing high-dose vs standard corticosteroids.
Cases: Nine patients with critical COVID-19 were admitted to the intensive care unit at the Shiga University of Medical Science Hospital, between February 2021 and June 2021, and treated with 2mg/kg methylprednisolone or methylprednisolone pulse (1g for 3days) in combination with 8mg/kg Tocilizumab. All the patients needed oxygen therapy and mechanical ventilation.
Results: All patients improved and were weaned from mechanical ventilation. No interruption of combination treatment occurred due to adverse drug reactions such as infection.
Conclusions: High-dose methylprednisolone and Tocilizumab seemed effective and safe for critical COVID-19 patients.

P5-98 | Vitamin D deficiency as a marker of severe COVID-19 course

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Background and Aims: Experimental evidence suggests that vitamin D is involved in the antiviral response, especially against enveloped viruses. The aim of the study was to study the effect of vitamin D deficiency on the development of severe and complicated forms of COVID-19.
Methods: The study involved 70 patients with a confirmed diagnosis of Covid-19. Of these, 30 patients had moderate severity with manifestations of pneumonia, 20 patients with severe pneumonia and 20 patients who died from covid-19. Serum vitamin D levels were analyzed using a high performance liquid chromatography. This study was performed in accordance with the Declaration of Helsinki. Ethics Committee of the Amur State Medical Academy approved this human study.
Results and Conclusions: Patients with moderate pneumonia had higher levels of vitamin D than patients with severe COVID-19 had and amounted to 21.85 + 3.2 and 15.86 + 4.8 ng/ml ($p < 0.01$). At the same time, patients who died as a result of COVID-19 in 100% of cases had a pronounced vitamin D deficiency, which amounted to 9.07 + 2.5 ng/ml. Patients with vitamin D deficiency more often had a complicated course of COVID-19: pulmonary embolism, acute respiratory distress syndrome, acute myocardial infarction, acute cerebrovascular accident. It was also noted that patients with vitamin D deficiency more often noted a long-term recovery of the body after a previous infection. The data obtained indicate a more detailed study and recommendations for the addition of vitamin D to therapy as a prevention of adverse outcomes in COVID-19.

P5-99 | The successful of intrapleural alteplase and pulmozyme in treating rhodococcus empyema in an immunocompromised patient

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Background and Aims: *Rhodococcus equi* is a facultative, non -motile, non-spore forming gram-positive coccobacillus.; a potential pathogen among immunocompromised patient. We report an immunocompromised patient with *R. equi* empyema successfully treated with modified dose of intrapleural alteplase and pulmozyme.
Methods: A 35-year-old male, with no co-morbidities, presented to our hospital with 3 months history of chronic productive cough, fever, and exertional dyspnea. He was an active homosexual with multiple partners.
Results: He was febrile, tachypnoeic with respiratory rate of 24/min, with oxygen saturation of 95% under 3L/min. Chest radiograph showed right pleural effusion. Bedside thoracic sonography demonstrated complex right pleural effusion with multiple septations. Pigtail drainage was inserted and the pleural fluid was exudative with LDH 3290 U/L. Pleural fluid and blood culture grew *R. equi* which confirms the diagnosis of *R. equi* bacteraemia with empyema thoracis. However, in view of the complex effusion there was minimal drainage; hence he received 3 doses of intrapleural alteplase 16 mg and intrapleural pulmozyme 5 mg given sequentially; which facilitated the drainage and improved the lung expansion. He received intravenous Imipenem 1gm QID with IV Ciprofloxacin 400mg BD for 21 days. Particulate agglutination method showed reactive for HIV with a CD4 count of 24 cells/uL. Subsequently, he was initiated on HAART.