



Corticosteroid-induced avascular necrosis of the femoral head is increased in the treatment of COVID-19 pandemic

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Global medical community is alerted on the risk of widespread usage of corticosteroid therapy of novel coronavirus disease 2019 (COVID-19) patients that may causes hip and knee pain due to osteonecrosis (ONC).^[1] Osteonecrosis is a complication of corticosteroid therapy that commonly affects patients on high-dose and prolonged therapies, although short-term exposure to lower doses may also result in the same complication.^[2]

Although there is a debate on the pros and cons of using steroid, from the perspective of orthopedics, it is an indisputable fact that long-term and high-dose steroid use leads to ONC.^[2] Osteonecrosis can be clinically divided into traumatic and non-traumatic types based on diverse etiologies. Corticosteroids can cause the death of bone dynamics components and are the most common cause of ONC.^[3]

Long-term high-dose use of corticosteroids is the key risk factor for non-traumatic ONC. Patients with a cumulative dose of corticosteroids therapy of more

than 4 g and a total duration of exposure of more than 15 days demonstrated a significant risk of development of ONC.^[4]

Osteonecrosis of the femoral head with subsequent arthrosis is one of the leading conditions for the total hip arthroplasty. It is caused by many conditions which ultimately causes the disruption of blood supply to the femoral head. The COVID-19 disease itself and the treatment with corticosteroids for the same, is implicated as a cause for the outbreak of ONC following COVID-19. During initial stages, it causes the collapse of femoral head but in advanced stages, it is associated with secondary osteoarthritis results in more disability. The treatment methods vary with stage of the disease. The early stages can be managed with conservative methods and hip preserving surgeries, whereas late-stage condition with advanced osteoarthritis requires arthroplasty.^[5]

Osteonecrosis incidence was higher in 2020 to 2021 compared to previous years and a previous COVID-19 diagnosis was associated with a greater likelihood of ONC. These findings suggest a role of the COVID-19 pandemic on an increased ONC incidence. Continuous monitoring is necessary to fully understand the impact of the COVID-19 pandemic on total hip arthroplasty care and outcomes.^[6]

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