

Editorial

Beware of Long Covid-19 Orthopedic Complication: Osteonecrosis

Asep Santoso

Department of orthopaedic and Traumatology, Universitas Sebelas Maret, Prof. Dr. R. Soeharso Orthopaedic Hospital, Surakarta, Indonesia

Several orthopaedic complications have been reported related to COVID-19. It includes symptoms related to muscles, bones, and joints.^{1,2} One important complication in the musculoskeletal area is osteonecrosis/ avascular necrosis (AVN). Several studies have reported cases of osteonecrosis. It can occur in the hip, knee, or jaw. Sulewski et al. found ten cases of osteonecrosis in large joints adjacent to the epiphyses of long bones and the spine.³ Angulo-Ardoy M. *et al* reported osteonecrosis of the knee related to COVID-19.⁴

It is known that hip joints are susceptible to various diseases.^{5,6} Several authors have reported osteonecrosis of the femoral head after COVID-19 infection. Agarwala et al. reported three cases of avascular necrosis of the femoral head in patients with long covid.⁷ The interesting findings are that patients complained of symptoms with evidence of avascular necrosis around 58 days after a COVID-19 diagnosis. It is much faster when compared to steroid exposure, which shows that it generally takes six months to a year to develop osteonecrosis. The recent preliminary data showed that the angiogenic pathogenesis of SARS Cov-2 and treatment with high-dose corticosteroids increased the risk of osteonecrosis in Covid-19 patients.^{8,9} A recent meta-analysis showed that 40% of COVID-19 patients received corticosteroid treatment. Among them, some 32% of the cases had osteonecrosis. It is also reported that low corticosteroid exposure might also lead to avascular necrosis.¹⁰ We seem to face "double-trouble" conditions.⁸ A general recommendation for assessing and managing the risk of glucocorticoid-induced osteonecrosis in patients with COVID-19 has been developed.¹⁰

REFERENCES

1. Ursini F, Ciaffi J, Mancarella L, Lisi L, Brusi V, Cavallari C, D'Onghia M, Mari A, Borlandelli E, Faranda Cordella J, La Regina M, Viola P, Ruscitti P, Miceli M, De Giorgio R, Baldini N, Borghi C, Gasbarrini A, Iagnocco A, Giacomelli R, Faldini C, Landini MP, Meliconi R. Fibromyalgia: a new facet of the post-COVID-19 syndrome spectrum? Results from a web-based survey. *RMD Open*. 2021 Aug;7(3):e001735. doi: 10.1136/rmdopen-2021-001735. PMID: 34426540; PMCID: PMC8384499.
2. Şahin T, Ayyıldız A, Gencer-Atalay K, Akgün C, Özdemir HM, Kuran B. Pain Symptoms in COVID-19. *Am J Phys Med Rehabil*. 2021 Apr 1;100(4):307-312. doi: 10.1097/PHM.0000000000001699. PMID: 33480608.
3. Sulewski A, Sieroń D, Szyłuk K, Dąbrowski M, Kubaszeński Ł, Lukoszek D, Christe A. Avascular Necrosis Bone Complication after Active COVID-19 Infection: Preliminary Results. *Medicina (Kaunas)*. 2021 Nov 30;57(12):1311.
4. Angulo-Ardoy M, Ureña-Aguilera Á. Knee osteonecrosis after COVID-19. *Fam Pract*. 2021 Aug 27;38(Suppl 1):i45-i47.
5. Santoso A, Ingale PS, Park KS, Yoon TR. Migratory Bone Marrow Edema Syndrome of the Hips: A Case Report. *Malays Orthop J*. 2017 Nov;11(3):56-58.
6. Santoso A, Joo SD, Lee DH, Seol YJ, Park KS, Yoon TR. Bilateral Femoral Neck Stress Fracture Presented with Unilateral Symptoms in a Shipman Laborer: A Case Report. *Hip Pelvis*. 2017 Mar;29(1):77-80.
7. Agarwala SR, Vijayvargiya M, Pandey P. Avascular necrosis as a part of 'long COVID-19'. *BMJ Case Rep*. 2021 Jul 2;14(7):e242101.
8. Shetty GM. Double Trouble-COVID-19 and the Widespread Use of Corticosteroids: Are We Staring at an Osteonecrosis Epidemic? *Indian J Orthop*. 2021 Oct 26;56(2):226-236.
9. f1. Zhang S, Wang C, Shi L, Xue Q. Beware of Steroid-Induced Avascular Necrosis of the Femoral Head in the Treatment of COVID-19-Experience and Lessons from the SARS Epidemic. *Drug Des Devel Ther*. 2021 Mar 4;15:983-995.
10. Li W, Huang Z, Tan B, Chen G, Li X, Xiong K, Zhu R, Li R, Li S, Ye H, Liang Z, Dong X, Zhou S, Chen S, Xi H, Cheng H, Xu R, Tu S, Chen Z, Qi L, Song J, Xiao R, Liu H, Nan Q, Yu H, Cui H, Shen Y, Wang C, Lin N, Zhang Y, Chen W. General recommendation for assessment and management on the risk of glucocorticoid-induced osteonecrosis in patients with COVID-19. *J Orthop Translat*. 2021 Nov;31:1-9.

<https://doi.org/10.31282/joti.v4n3.78>

Corresponding author : Asep Santoso, MD. Email : asepsantoso@gmail.com