

Dexamethasone/methylprednisolone

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Osteonecrosis of the knee following off-label use: 2 case reports

In a case series, 2 patients including a woman in her 20s and a male in his late teens were described, who developed osteonecrosis of the knee during off-label treatment with dexamethasone and/or methylprednisolone for coronavirus-2019 [COVID-19; *not all routes and dosages stated*].

Case 1: A woman in her 20s developed osteonecrosis of the knee during off-label treatment with methylprednisolone for COVID-19. The woman with no medical history was diagnosed with COVID-19 infection and managed at home with oral methylprednisolone 16mg 3 times a day for 15 days (cumulative steroid dose equivalent to 900mg of prednisolone). Twenty five days after the diagnosis of COVID-19 infection and initiation of methylprednisolone treatment, she developed pain in both knees, which did not recover on conservative management. MRI of both knees showed bilateral osteonecrosis of femoral condyles and patella. Based on presenting symptoms and investigational finding, she was diagnosed with osteonecrosis of the knee. Therefore, she was treated with alendronic acid [alendronate] in 2 divided doses along with a single dose of zoledronic acid. Additionally, she was supplemented with calcium, vitamin D and unspecified anti-inflammatory medications. During follow-up at 3 months, she was comfortable with no progression of the osteonecrosis and able to resume her routine activities comfortably.

Case 2: A male patient in his late teens developed osteonecrosis of the knee during off-label treatment with methylprednisolone and dexamethasone for COVID-19. The male patient presented to the hospital with complaints of pain in the right knee and both hips. Four months ago, he was diagnosed with COVID-19 for which he was admitted and treated with methylprednisolone injection and dexamethasone tablet over 19 days (dose equivalent to 1413mg of prednisolone). MRI revealed the distal femur and proximal tibia and Ficat-Arlet stage III avascular necrosis (AVN) of both hips. Based on presenting symptoms and investigational findings, a diagnosis of osteonecrosis of the right knee was made. Therefore, he was treated with alendronic acid [alendronate] and zoledronic acid. During follow-up at 3 months, he was clinically better with no progression of the osteonecrosis.

Agarwala SR, et al. Secondary osteonecrosis of the knee as a part of long COVID-19 syndrome: a case series. *BMJ Case Reports* 15: 1-3, No. 3, 29 Mar 2022. Available from: URL: <http://doi.org/10.1136/bcr-2021-248583>

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