

Abstract N°: 6079**New onset of Sapho syndrome in a 14-year-old boy: oral isotretinoin or Covid-19 vaccination induced?**

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Introduction & Objectives: We report the case of a young patient with severe acne who was diagnosed with SAPHO syndrome after starting isotretinoin therapy during the COVID 19 vaccination cycle. SAPHO syndrome, an acronym for Synovitis, Acne, Pustulosis, Hyperostosis, and Osteitis, is a rare chronic inflammatory disease that affects the skin, bones, and joints. It manifests with various symptoms, including joint pain, swelling, stiffness, skin lesions such as acne and pustulosis, and bone abnormalities like hyperostosis and osteitis. The exact cause of SAPHO syndrome remains not fully understood, but it is believed to be an autoimmune disorder characterized by the immune system mistakenly attacking healthy tissues, leading to inflammation and tissue damage. Cases of relapse of SAPHO syndrome following the initiation of isotretinoin therapy have been described in the literature, at the same time there is rare evidence of SAPHO syndrome induced by COVID 19 vaccine.

Case Report: A 14-year-old boy presented with multiple papulopustular lesions on his face and trunk, suggestive of acne vulgaris. Therefore, isotretinoin 20 mg/die was prescribed. After a few weeks, his clinical condition rapidly worsened, with the appearance of subcutaneous nodules, multiple arthralgias, and fever. The patient was admitted to the hospital and isotretinoin was interrupted. X-ray and scintigraphy of knees, ankles, and feet excluded joint involvement. Based on clinical and radiologic findings, a diagnosis of acne fulminans was made. Prednisone 25 mg/die was started, with amelioration of both cutaneous lesions and articular pain. While tapering prednisone dosage, the patient referred the onset of joint pain in his knees and lower back. The patient completed covid19 vaccination cycle three weeks before the onset of the lesions. These results led to a diagnosis of SAPHO syndrome, and Neridronate ev was prescribed. For acne maintenance treatment, topical therapy with benzoyl peroxide/adapalene was administered.

Conclusion: Isotretinoin is a medication primarily used for the treatment of severe acne, but it has been associated with musculoskeletal symptoms such as arthralgia, myalgia, and back pain. Some rare cases reported in the literature suggest that isotretinoin may also have the potential to trigger or worsen SAPHO syndrome. The exact mechanism by which isotretinoin can induce or exacerbate SAPHO syndrome is not fully understood, but it is believed to be linked to its impact on bone metabolism and the immune system.

On the other hand, while there have been reported cases of individuals developing inflammatory conditions following COVID-19 vaccination, there is limited evidence regarding the association between SAPHO syndrome and COVID-19 vaccination. Recently, a case of SAPHO syndrome after COVID-19 vaccination, accompanied by thyroid dysfunction, has been documented. Consequently, it is challenging to definitively determine which of the two factors played a more significant role in the onset of SAPHO syndrome.