Eosinophilic Fasciitis Triggered by Nivolumab: A Remarkable Efficacy of the mTOR Inhibitor Sirolimus

To the Editor:

We previously reported in the *Journal of Thoracic Oncology* the case of a 56-year-old woman with a metastatic pulmonary adenocarcinoma who was in complete remission under nivolumab therapy but experienced development of a typical eosinophilic fasciitis with concomitant immune cholangitis, both of which were considered adverse events of the immune checkpoint inhibitor (ICI).

Nonetheless, no improvement was observed after ICI discontinuation, and a dramatic worsening was noticed despite a combination of corticosteroids and methotrexate therapy, as the fasciitis extended to the whole body, involving the face and causing a diffuse and painful stiffness.

Because the immune disease was still worsening 9 months after withdrawal of nivolumab and considering the absence of malignancy relapse on computed tomography reassessment, methotrexate was replaced with sirolimus, a mechanistic target of rapamycin kinase (mTOR) inhibitor that had also shown efficacy in a case of idiopathic eosinophilic fasciitis.

A remarkable improvement was rapidly obtained, and after 6 months of therapy, the patient regained a close-to-normal range of motion of her large joints, with a clear improvement in skin thickening involving the fingers and the dorsal aspect of the hands, which were previously stuck in flexion contracture, as illustrated in Figure 1. So far, the cancer is still in remission despite the absence of antineoplastic agents.

Data regarding the management of steroid-refractory idiopathic eosinophilic fasciitis are scarce. Concerning the specific situation of fasciitis that is immune-mediated with an ICI, no practical guidelines are available—especially in cases of fasciitis that

![Figure 1](https://example.com/figure1.png)

**Figure 1.** Clinical evolution after 6 months of sirolimus therapy. (A and B) Skin thickening with contracture of the fingers. (C and D) In photographs taken after 6 months of sirolimus therapy, marked improved mobility of the joints is evident.
are refractory to ICI cessation and classical corticosteroid therapy. Although considered a rare affliction, ICI-immune-mediated fasciitis deserves special attention to explore new therapeutic approaches, as the treatments that have proved effective in other rheumatic toxicities (e.g., in arthritis) might not be extended to this specific ICI-related adverse event even if their pathophysiology shares some similarities.3,4

Hence, this observation suggests a noticeable efficacy of sirolimus in nivolumab-related fasciitis, raising the question of whether the mTOR pathway could be a promising target in the field of ICI-immune-mediated diseases.

References