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An Overlooked Diagnosis: Calcineurin-Inhibitor Pain Syndrome (CIPS) in a Transplant Recipient.

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INTRODUCTION
CIPS is a debilitating adverse effect associated with calcineurin inhibitors (CNI), including tacrolimus and cyclosporine.

CIPS can present months after CNI initiation with:
1. Symmetric aching or shock-like pain of the lower extremities
2. Worsening pain upon weight-bearing
3. Pain improvement with extremity elevation

METHODS
Retrospective chart review. Exempt from IRB per BIDMC policy.

CASE REPORT
55-year-old woman with history of fibromyalgia and renal transplant (2024), maintained on tacrolimus, presented with severe bilateral lower extremity pain in the knees, calves, and ankles.

Labs: elevated bone-specific alkaline phosphatase (ALP) 153
Initial Imaging: unremarkable ankle and foot x-rays.
Subsequent Imaging: MRI revealed marrow edema (Figure 1.)

Initially prescribed gabapentinoid, muscle relaxant, & duloxetine without relief. Tacrolimus (CNI) switched to Belatacept with pain relief within 1 week along with a reflective drop in ALP to 26.9.

DISCUSSION
Intraosseous vasoconstriction, marrow edema, & dysregulated nociception contribute to CIPS development (1).

Elevated bone-specific ALP, irregular osteoporosis (or normal) XRs, increased bone scintigraphy uptake, and/or patchy marrow edema may indicate CIPS (3).

Consider **calcineurin-inhibitor pain syndrome (CIPS)** in **transplant recipients** with unexplained **lower-extremity pain**, particularly when MRI demonstrates marrow edema.

Belatacept may offer an effective CNI-free alternative.

Treatment: CNI dose reduction vs. Initiation of a CNI-free immunosuppressant alternative like Belatacept (CD28-mediated T-cell co-stimulation blocker) has comparable safety & transplant survival rates (2)(4).

Spontaneous resolution of CIPS reported over months in some cases.



Figure 1. Right lower extremity MRI tibia/fibula demonstrating mild bone marrow edema within the proximal one-third of the tibia, suggestive of CIPS. No other radiographic explanation for her pain was appreciated.

REFERENCES

LINKEDIN CONTACT:

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