

# Incidental Detection of a Tenosynovial Giant Cell Tumor of the Thigh on [<sup>68</sup>Ga]Ga-FAPI PET/CT: Presentation of an Unusual Case

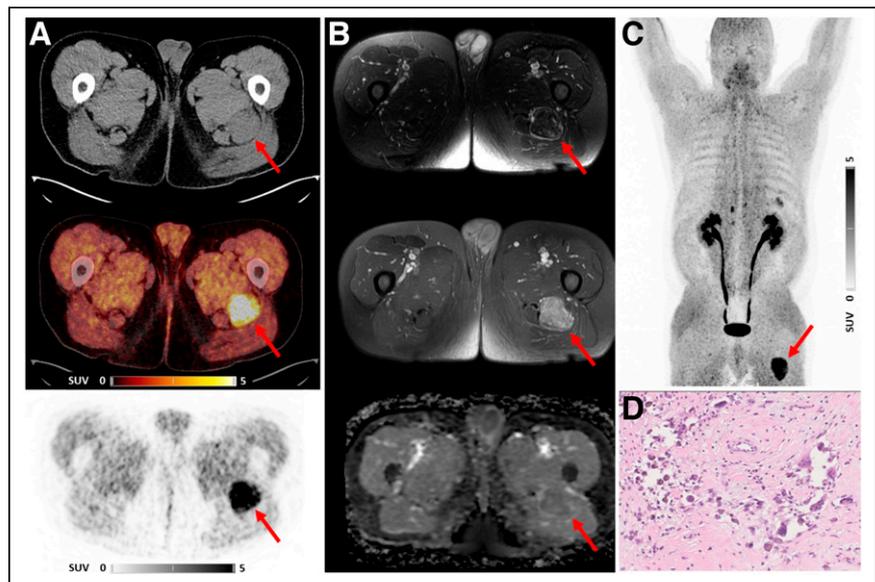
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**A** 55-y-old man underwent [<sup>68</sup>Ga]Ga-fibroblast activation protein inhibitor (FAPI) PET/CT because of persistent pulmonary symptoms after recovery from coronavirus disease 2019 (1). No increased pulmonary tracer uptake was found; however, as shown in Figures 1A and 1C, focally increased [<sup>68</sup>Ga]Ga-FAPI uptake was observed in a mass within the dorsal musculature of the left thigh. Tracer uptake colocalized with a sharply circumscribed, inhomogeneously contrast-enhancing mass on MRI without relevant diffusion restriction (Fig. 1B).

Consequently, CT-guided percutaneous biopsy was undertaken, and an aggressive angiomyxoma was suspected, a rare tumor affecting predominantly female patients and typically occurring in the perineum or pelvis (2). Although generally benign, this tumor grows infiltratively and is prone to recurrence.

Because of the proximity to the sciatic nerve, the tumor was completely resected in July 2021. The tumor showed a fine capsule encased by multiple layers. Subsequent to the operation, pathologic reassessment showed a definite diagnosis of a tenosynovial giant cell tumor (Fig. 1D), which is extremely rare in this location. Tenosynovial giant cell tumor is an unusual primary soft-tissue tumor that is completely distinct from and should not be confused with any giant cell-rich tumor of bone or soft



**FIGURE 1.** Images of tenosynovial giant cell tumor (arrows). (A, B, and C) Axial [<sup>68</sup>Ga]Ga-FAPI PET/CT (A) and maximum-intensity PET projection (C) showing increased pulmonary tracer uptake. (B) Axial MRI showing colocalization of uptake with enhancing mass. (D) Hematoxylin- and eosin-stained histologic section showing tenosynovial giant cell tumor.

tissue. Tenosynovial giant cell tumor belongs to the group of benign fibrohistiocytic tumors (3).

This report demonstrates the high sensitivity of [<sup>68</sup>Ga]Ga-FAPI PET/CT to detect previously unknown tumors, making it a promising test in cases of suspected tumor disease or in cancers of unknown primary (4).

## DISCLOSURE

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