

# Recurrence of dermatofibrosarcoma protuberans in post-surgical scar detected by $^{18}\text{F}$ -FDG-PET imaging

**To the Editor:** Dermatofibrosarcoma protuberans (DFSP) is a cutaneous soft tissue neoplasm of intermediate-to-low grade malignant potential. It arises from the dermis and invades locally into deeper subcutaneous tissue. It is characterized by a high local recurrence rate after standard surgical excision, partly due to asymmetric infiltration of the subcutis by delicate strands of tumor extending far beyond the apparent clinical margins [1-8]. We describe a 27 years old female, a patient of histopathologically proven DFSP, in whom fluoro-18 fluor deoxyglucose-positron emission tomography ( $^{18}\text{F}$ -FDG-PET) scan detected tumor recurrence in the surgical scar. She presented with gradually increasing painless swelling of around 2 ½ years duration over the right shoulder. Wide excision of the lesion was carried out. On histopathology, it was found to be DFSP. The tumor was located in the dermis, had partially circumscribed borders and striking cartwheel pattern of arrangement on microscopy.

She was referred for  $^{18}\text{F}$ -FDG-PET imaging 3 months following surgery for disease evaluation. The whole body  $^{18}\text{F}$ -FDG-PET (Fig. 1) showed a linear mild to moderate degree  $^{18}\text{F}$ -FDG uptake in the region of surgery corresponding to the location of the surgical scar. There was a solitary tiny focus of intense  $^{18}\text{F}$ -FDG uptake amidst this linear uptake (arrow in Fig. 1) of scar; the standardized uptake value (SUVmax) of this focus was found to be 4.64. Careful clinical correlation was done for this relatively focal uptake that revealed a tiny firm nodule over the linear scar. Excision and biopsy proved it to be a recurrence of DFSP.

The present case underscores the fact that a focal and intense uptake in the background of a relatively linear low grade scar uptake can signify disease focus lurking in the scar tissue and should not be passed off as normal physiological uptake. It upholds the significance of pattern recognition in

$^{18}\text{F}$ -FDG-PET coupled with a high index of suspicion and its subsequent careful clinicoradiopathologic correlation thereby detecting early disease recurrence. It also depicts the role of  $^{18}\text{F}$ -FDG-PET in DFSP, where it has the potential to define the true extent of the tumor. To the best of our knowledge, there has been no previous report investigating the utility of  $^{18}\text{F}$ -FDG-PET in DFSP.

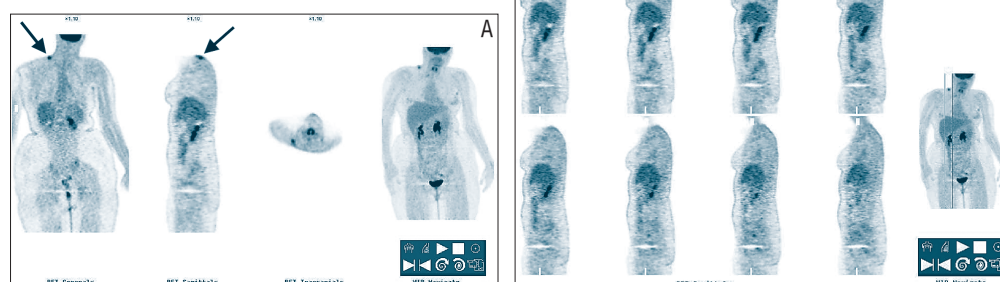
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**Figures 1A and 1B.** MIP and sagittal views of  $^{18}\text{F}$ -FDG-PET showing a linear low grade uptake in the right shoulder region corresponding to the surgical scar. A solitary focus of intense  $^{18}\text{F}$ -FDG uptake (arrow) is also noted in this linear streak of this relatively low grade uptake, subsequently proven to be dermatofibrosarcoma protuberans.



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