

Increased ^{68}Ga -FAPi uptake in epithelioid inflammatory myofibroblastic sarcoma

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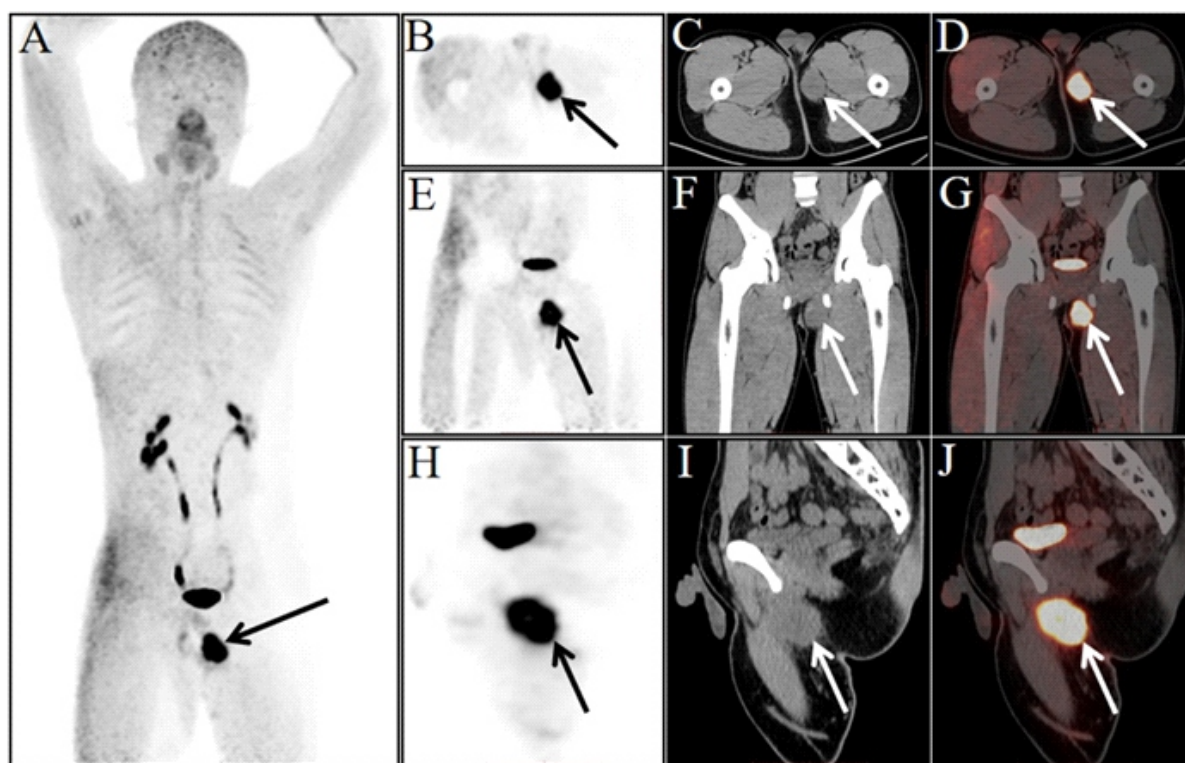


Figure 1. A 20-year-old young man presented with 7 months of slow-growing, painless mass in the left inner thigh. B-ultrasound showed a subcutaneous mass on the left thigh with uneven echo, which was considered likely a malignancy. Subsequently, the patient was enrolled in a gallium-68-labeled fibroblast activation protein inhibitor (^{68}Ga -FAPi) solid tumor clinical trial (ChiCTR2100044131) approved by the institutional review committee of our hospital. A written informed consent was obtained from the patient. The maximum intensity projection image (A) revealed increased ^{68}Ga -FAPi uptake in the left perineum area (arrow). Axial images (B-D) and coronal images (E-G) demonstrated a mass (arrow) of 4.5cm×2.9cm×5.8 cm in the root of the left thigh with intense FAPi uptake (maximum standardized uptake value (SUVmax) 14.5). No other tumorous regions elsewhere in the body related to the masses were noted. Based on these findings, a primary malignancy was suspected. The patient subsequently underwent resection of the mass in the left thigh. Histopathologic analysis and immunohistochemical analysis confirmed the diagnosis of epithelioid inflammatory myofibroblastic sarcoma. The patient's symptoms were gradually relieved, with a good quality of life during the 12-month follow-up period.

Epithelioid inflammatory myofibroblastic sarcoma (EIMS) is a rare, aggressive soft-tissue malignancy which often occurs in the abdominal cavity, mesentery, omentum majus [1]. Upon positron emission tomography/computed tomography (PET/CT) images, differential diagnoses of EIMS include dermatofibrosarcoma protuberans, subcutaneous Ewing's sarcoma, angiosarcoma, malignant melanoma, and inflammatory myofibroblastoma [2]. Gallium-68-FAPi is a promising PET agent for tumors, as fibroblast activation protein is overexpressed in cancer-associated fibroblasts [3, 4]. Our case indicates that the possibility of EIMS should also be considered when similar images are reviewed on ^{68}Ga -FAPi PET/CT.

The authors declare that they have no conflicts of interest.

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Huipan Liu^{1,2,3} MD, PhD, Yue Chen^{1,2,3} MD

1. Department of Nuclear Medicine, The Affiliated Hospital, Southwest Medical University, Luzhou, 646000, Sichuan Province, China. 2. Nuclear Medicine and Molecular Imaging Key Laboratory of Sichuan Province, Southwest Medical University, Luzhou, 646000, Sichuan Province, China. 3. Institute of Nuclear Medicine, Southwest Medical University, Luzhou, 646000, Sichuan Province, China.

Corresponding author: Huipan Liu MD, PhD, Department of Nuclear Medicine, The Affiliated Hospital, Southwest Medical University, No. 25 Tai Ping St, Jiangyang District Luzhou, Sichuan, PR China. 646000. E-mail: liuhuipan1573@163.com
