

# Complicated Splenosis Mimicking Malignancy Demonstrated by F-18 FDG PET-CT Verified by Tc-99m Nanocolloid SPECT-CT

✉ Zehra Pinar Koç<sup>1\*</sup> ✉ Zeynep Selcan Sağlam<sup>2</sup> ✉ Pınar Pelin Özcan<sup>3</sup> ✉ Gökçe Yavan<sup>4</sup> ✉ Hasan Hüsnü Yüksek<sup>5</sup>

*\*Corresponding Author*

<sup>1,2,3,4</sup>*Mersin University, Faculty of Medicine, Department of Nuclear Medicine, Mersin, Turkey*

<sup>5</sup>*Mersin University, Faculty of Medicine, Department of Radiology, Mersin, Turkey*

## **Abstract**

57 years old male patient attended to the hospital with complaint of weight loss. A mass lesion adjacent to the liver and stomach was demonstrated in the initial CT. Metabolic characterization of the lesion by F-18 FDG PET-CT showed mild FDG accumulation and undetermined mesenteric lesions as well as fragmented appearance of the spleen. The anamnesis of the patient revealed abdominal trauma and additional SPECT-CT with Tc-99m Nanocolloid verified Splenosis.

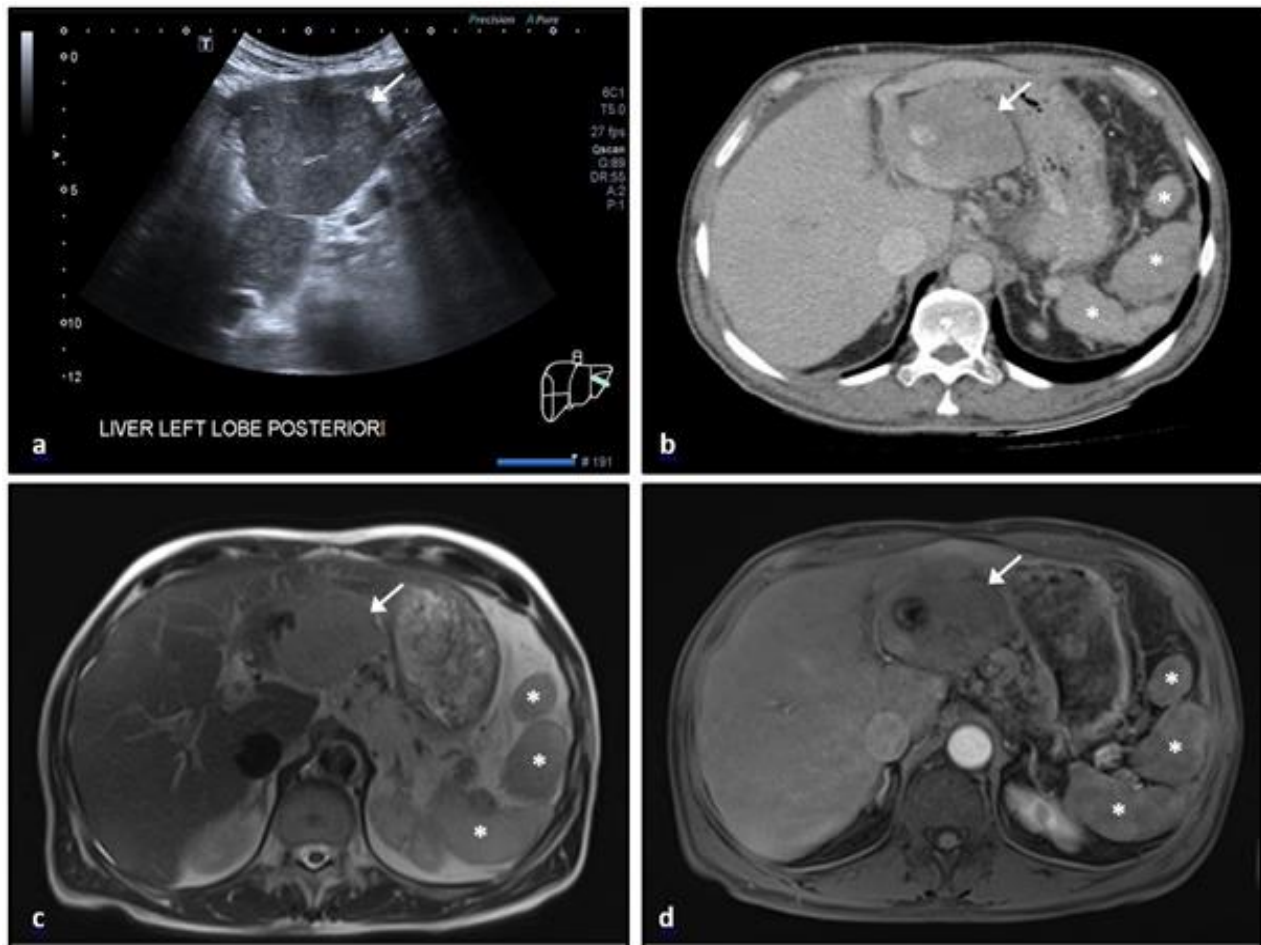
**Keywords:** *splenosis, trauma, FDG, nanocolloid.*

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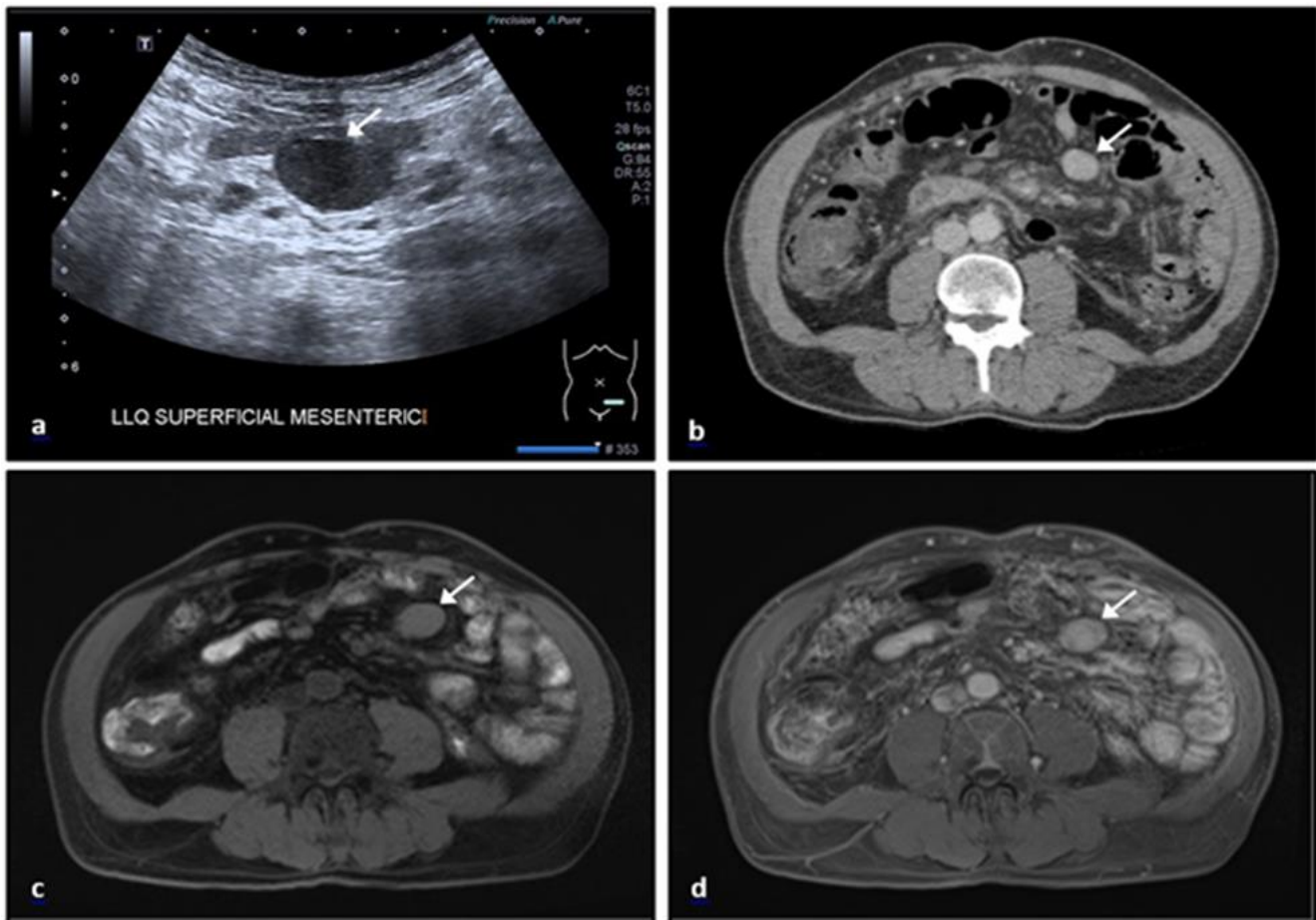
**Address for Correspondence:** Zehra Pinar Koç, Mersin University Training and Research Hospital, Clinic of Nuclear Medicine, Mersin, Turkey

**Phone:** + 90-324-2410000/22524 **E-mail:** zehrapinarkoc@gmail.com **ORCID ID:** orcid.org/0000-0002-3274-5790 **Received:**

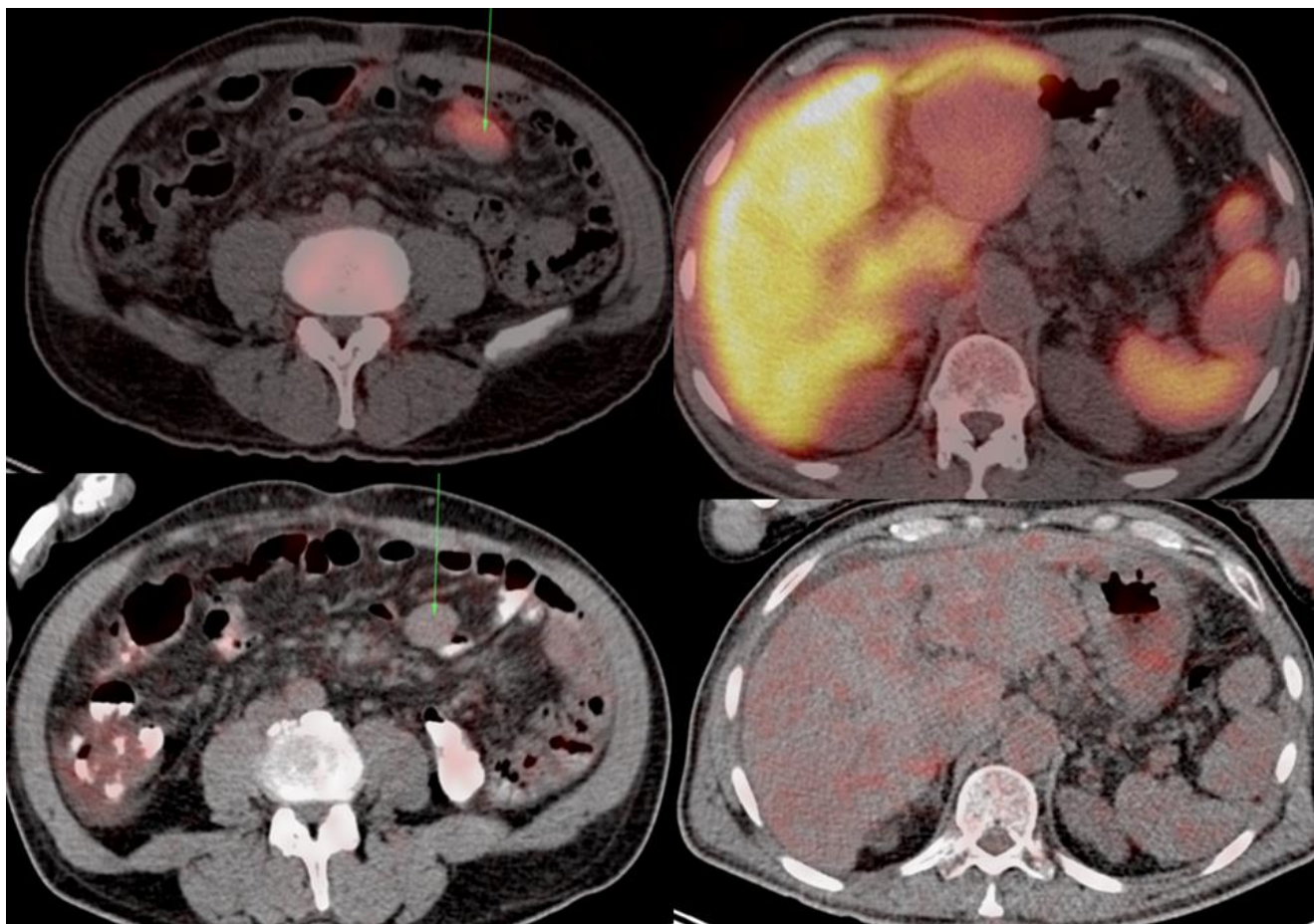
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**Figure 1.:** In ultrasound images adjacent to the liver left lobe the hypoechoic lesion (a) with In the contrast enhanced transaxial CT (b) images iso-slightly hypodense lesion is presented compared to calcified splenules (\*) In the posterior neighborhood of the left liver lobe, and on MRI (c,d) T2W images (c) spleen appearance was observed. A mass lesion (white arrow) containing hypointense area due to susceptibility artifact and calcification, showing contrasting feature similar to spleen-splenules (white arrow) was observed on arterial phase-contrast-enhanced fat-suppressed T1W images with similar signal characteristics as splenules.



**Figure 2.** In the left lower quadrant, in mesenteric adipose tissue planes on US (a) well-defined, homogeneously enhanced on CT with intravenous contrast (b), on MRI (c, d) fat-suppressed T1W images without contrast (c) a homogeneously enhanced nodular lesion (white arrow) was observed on the fat-suppressed T1W contrast images with intermediate signal (d).



**Figure 3.** Transaxial F-18 FDG PET-CT fusion images demonstrated mass lesion adjacent to the left lobe of liver and spleen 67 mm in size with mild FDG accumulation (SUVmax=5.6) compared to the physiological liver uptake (SUVmax=4) as well as fragmented spleen and multiple mesenteric lesions in the abdomen without significant FDG accumulation (lower line). The patient had history of abdominal trauma thus splenosis was suspected. Tc-99m Nanocolloid scintigraphy was performed for the verification. SPECT-CT imaging verified the diagnosis (upper line). Splenosis is usually a consequence of a trauma or operation. Previous case reports demonstrated splenosis as a false positive cause especially for malignancy (1, 2). There are several case reports about verification of the splenosis by spleen detecting radionuclide imaging modalities with Tc-99m Nanocolloid scintigraphy as well as denatured erythrocyte scintigraphy in the literature (3, 4). Especially the mesenteric lesions as a part of splenosis might be challenging by most of the diagnostic methods including CT or FDG PET-CT (5, 6). This was also the case in this report which showed mesenteric lesions as well as complicated mass lesion which was typical presentation of the splenosis but verified by SPECT/CT.

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**Authorship Contributions**

**Concept:** Z.P.K., Z.S.S., **Design:** Z.P.K., Z.S.S., **Supervision:** Z.P.K., Z.S.S., P.P.O., G.Y., H.H.Y., **Data Collection and/or Processing:** Z.P.K., Z.S.S., P.P.O., G.Y., H.H.Y., **Analysis and/or Interpretation:** Z.P.K., Z.S.S., P.P.O., G.Y., H.H.Y., **Literature Review:** Z.P.K., Z.S.S., **Writer:** Z.P.K.

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