

Optimal Radionuclide Imaging of Splenic Disorders: The Value of SPECT/CT

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Objective

Dedicated radionuclide imaging of the spleen is useful in conditions such as accessory spleen and splenic trauma. Nuclear Medicine plays a key role in the diagnostic molecular SPECT/CT imaging of splenic disorders.

Methods

The patient was injected with 10.0 mCi (370 MBq) of heat-denatured, Tc-99m–labeled autologous RBCs (HDRBC). The tracer is prepared by labeling RBCs removed from the patient with Tc-99m in vitro. The labeled RBCs are damaged by heating them in a water bath at 49° C for 20 minutes.

Results

53 year-old male with a history of diverticulitis, presented with abdomen pain. He was sent for CT of the abdomen w/IV contrast that showed trace periappendiceal fat. He was then referred for MRI of the abdomen, which showed a well-defined lesion within the pancreatic tail measuring approximately 1.3 x 1.7 cm, suspicious for a pancreatic neuroendocrine tumor versus accessory spleen. A nuclear medicine SPECT/CT scan was recommended to rule out the possibility that this lesion represent splenic tissue.

SPECT/CT images of the abdomen demonstrate focal tracer activity, approximately 1.7 cm in the pancreatic tail, corresponding to the finding noted on the recent MRI scan. This SPECT/CT finding is consistent with a splenule in the pancreatic tail.



Figure 1
CT coronal image of abdomen

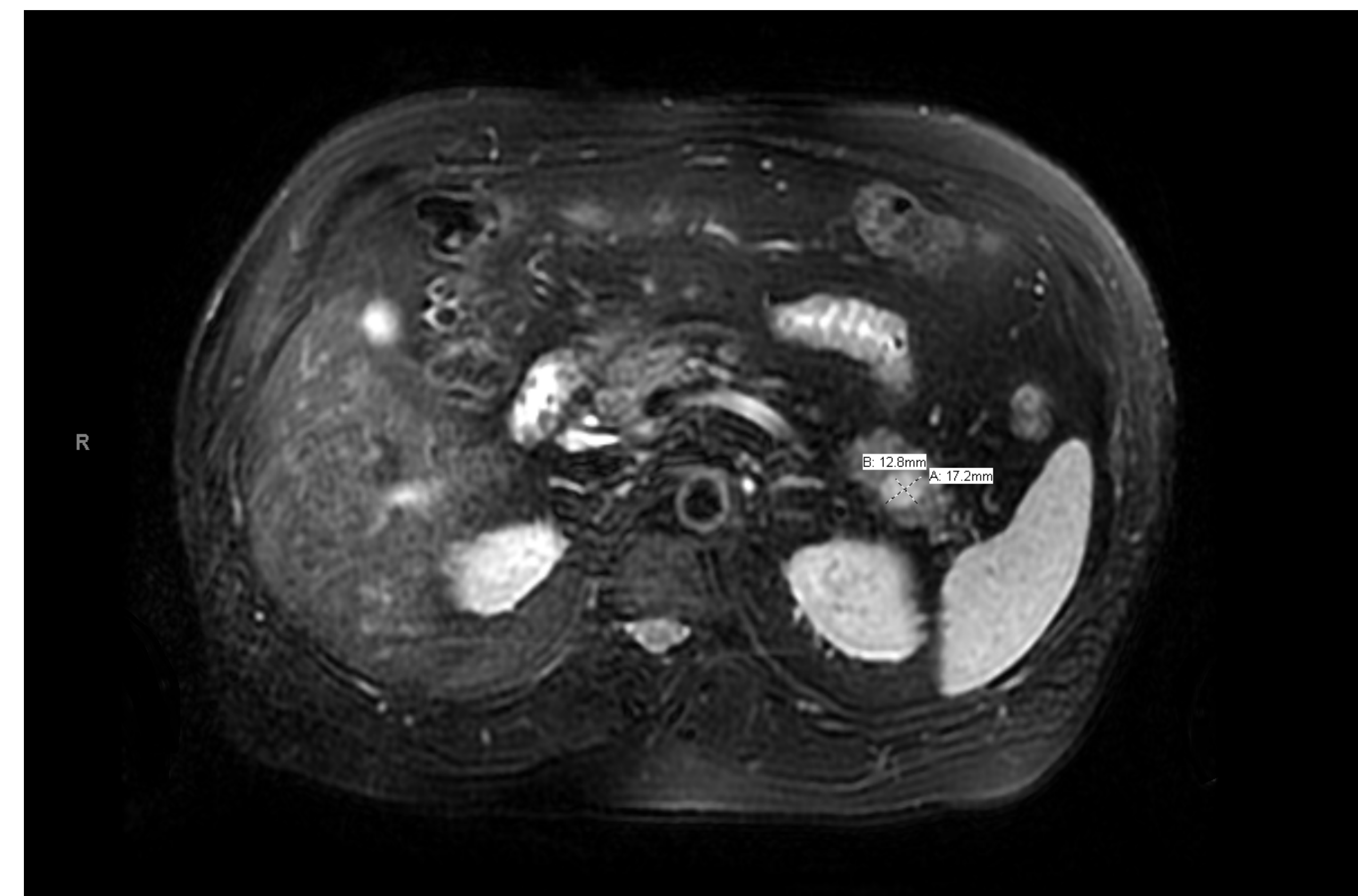


Figure 2
T2 MRI image of abdomen

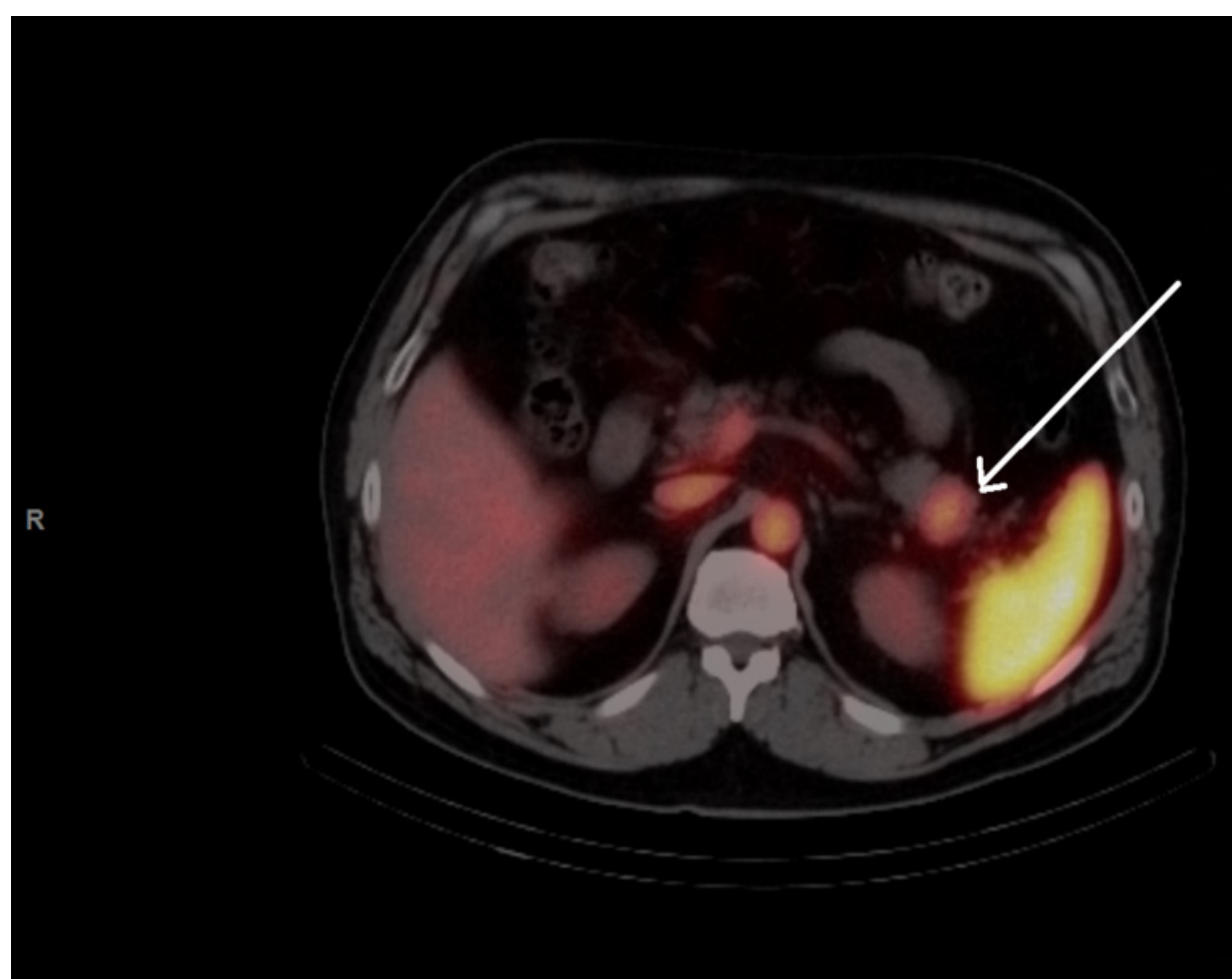


Figure 3
SPECT/CT coronal abdomen image

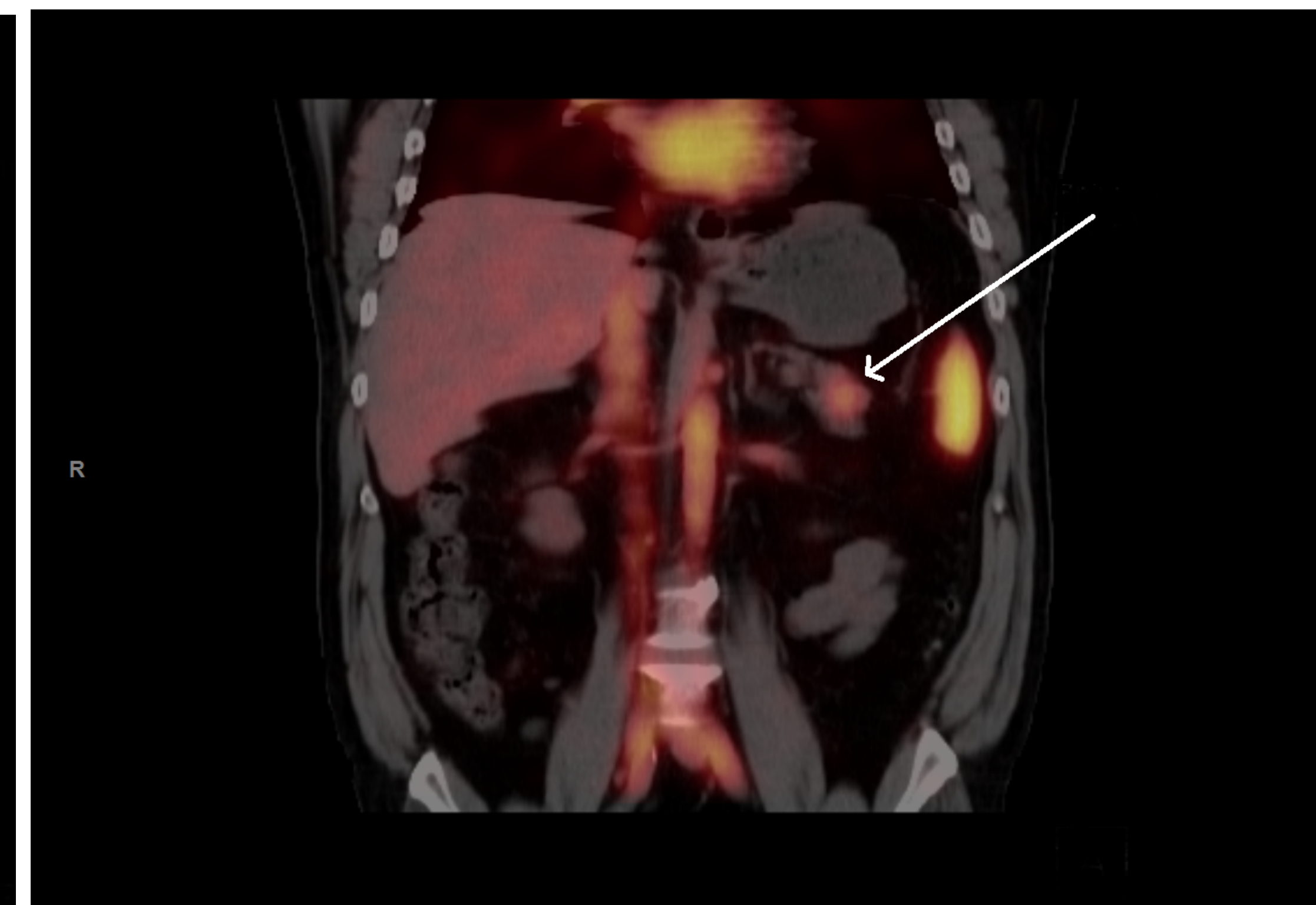


Figure 4
SPECT/CT axial abdomen image

Conclusion

SPECT/CT Imaging combine with HDRBC Tc-99m–labeled autologous RBCs scintigraphy is an underused modality that is highly specific for detecting splenic trauma or accessory splenic tissue. This imaging procedure would eliminate the need for further invasive procedures including tissue sampling.