Case report

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Detection of splenic tissue by ^{99m}Tc-labelled Sn-colloid SPECT/CT scintigraphy

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Abstract

This paper presents a case of an 80-year-old man with idiopathic thrombocytopenic purpura after splenectomy performed many years ago, which normalized platelet count, presented with severe thrombocytopenia with no response to treatment. A SPECT/CT study was performed using ^{99m}Tc-labelled Sn-colloid. The histology confirmed the presence of splenic tissue in those foci. Spleen examination (SPECT/CT) using ^{99m}Tc-labelled Sn-colloid is able to detect splenic tissue and in our opinion is a simpler and less time-consuming procedure than using ^{99m}Tc DRBC.
Key words: spleen scintigraphy, SPECT/CT, Sn-colloid

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Introduction

In this paper we presented a case of an 80-year-old man with idiopathic thrombocytopenic purpura after splenectomy performed many years ago, which normalized platelet count, presented with severe thrombocytopenia with no response to treatment.

The patient was referred for spleen scintigraphy because of suspicion of the presence of additional splenic tissue.

A SPECT/CT study (Infinia-Hawkeye 4) was performed using ^{99m}Tc-labelled Sn-colloid (185 MBq, ^{99m}Tc-Koloid; Polatom).

SPECT/CT images showed focal radiotracer uptake: in the left renal space (Figure 1) and close to the chest wall (Figure 2).

The histology confirmed the presence of splenic tissue in those foci.

After removing this tissue the platelet count returned to a normal value.

Discussion

Persistence of splenic tissue after splenectomy occurs in 5–20% of patients [1, 2] as unnoticed earlier accessory spleen or iatrogenic splenosis (due to intraperitoneal implantation of splenic tissue). Splenic remnants may cause relapse of thrombocytopenia months to years after surgery. Additionally, accessory splenic tissue may mimic a tumour; therefore, the localization of splenic tissue is very important for surgical treatment.

Although ^{99m}Tc-labelled heat-denaturated erythrocyte (^{99m}Tc-DRBC) scintigraphy remains the method of choice for detection splenic tissue [3], imaging using technetium-99m-Sn-colloid offers an accurate and easily performed method of investigating the liver and spleen.

Following injection of ^{99m}Tc-Sn-colloid, the particles are taken up by reticuloendothelial cells (macrophages of the spleen

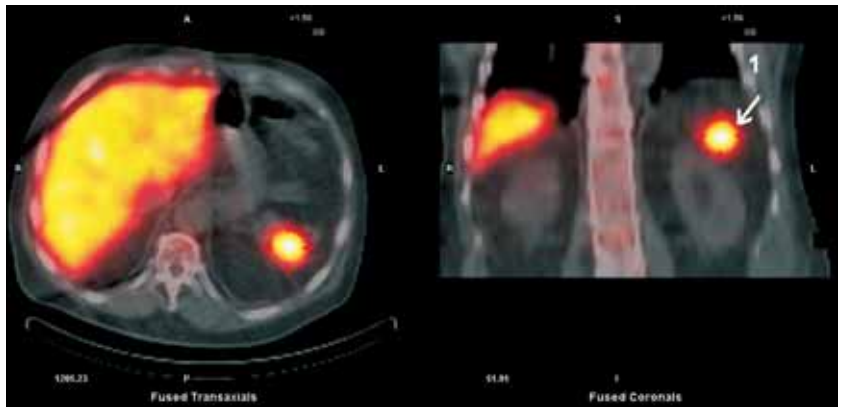

Figure 1. SPECT/CT images. Radiotracer uptake in the left renal space.

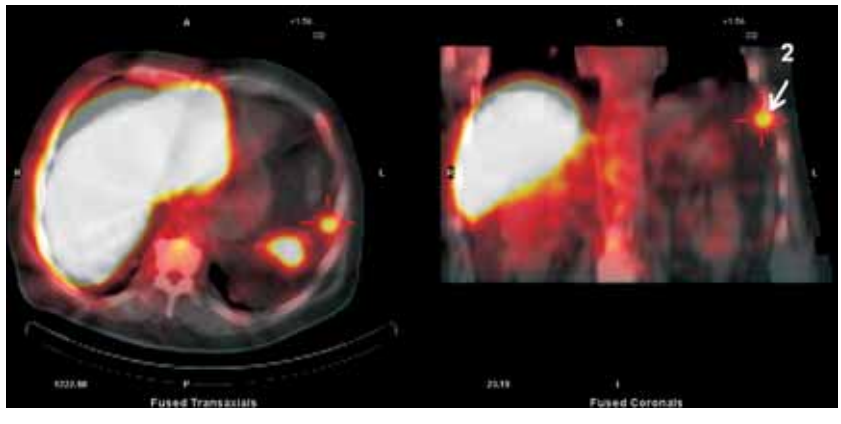

Figure 2. SPECT/CT images. Radiotracer uptake close to the chest wall.

and Kupffer cells of the liver). There is also a slight uptake of ^{99m}Tc-Sn-colloid in the reticuloendothelial cells of bone marrow.

Conclusions

Spleen examination (SPECT/CT) using ^{99m}Tc-labelled Sn-colloid allows the detection of splenic tissue and in our opinion is a simpler and less time-consuming procedure than using ^{99m}Tc DRBC.

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