

## Case Report

# Scintigraphic Imaging of Splenosis

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## Abstract

Any surgery or trauma to spleen may cause fragmentation of splenic tissue (splenosis) to disperse in peritoneal and thoracic cavity. These splenosis may appear as nodular density with enhancing characteristics on CT images (similar to spleen), which can mimic malignancy or lymphadenopathy. Such patients may be subjected to CT guided biopsy for confirmation. Scintigraphic imaging with <sup>99m</sup>Tc Sulfur colloid is readily available and relatively easy non-invasive test for this condition. Here we present a case of multiple peritoneal nodules/masses who underwent <sup>99m</sup>Tc Sulfur colloid imaging for suspected peritoneal splenosis.

**Keywords:** Splenosis; <sup>99m</sup>Tc Sulfur colloid imaging; Scintigraphy

## Introduction

Splenosis is a result of auto-transplantation of splenic tissue following a trauma or splenectomy. It usually presents as well defined nodules in splenic bed on routine CT imaging. However, seldom it is encountered outside splenic bed, where it is difficult to differentiate splenic tissue from infection, lymph nodes or other tumors. Functional imaging is a simplified way for evaluation of splenosis. We present a case report where <sup>99m</sup>Tc Sulfur colloid helped in forming diagnosis.

## Case Presentation

54 year old male underwent workup for microscopic hematuria. Non-contrast CT was suggestive of post splenectomy status with few soft tissue nodules in splenic bed, concerning for splenosis. There were numerous nodules of varied sizes in left lower quadrant along the para-colic gutter. Differential diagnosis of splenosis versus peritoneal deposits versus lymphadenopathy was made. Further evaluation with <sup>99m</sup>Tc-Sulfur colloid scan demonstrated correlative uptake in the nodules in splenic bed and left lower quadrant/ left hemi-pelvis, confirming diagnosis of splenosis.

## Discussion

Incidence of splenosis is high among individuals undergoing splenectomy, and is reported as high as 58% [1]. Other causes of splenosis may be congenital, post trauma or surgery. Approximately 10% to 12% of <sup>99m</sup>Tc sulfur colloid is taken up by the splenic tissue, and hence scintigraphic imaging with this agent would be a simplified methodology to evaluate accessory spleen or splenosis. In presented case, CT scan of abdomen and pelvis demonstrated nodules in splenic bed (Figure 1), along the left colonic gutter and left hemi-pelvis (Figure 2). <sup>99m</sup>Tc Sulfur colloid scan demonstrated foci of increased tracer uptake, corresponding to the above mentioned sites, suggesting splenic tissue/splenosis.

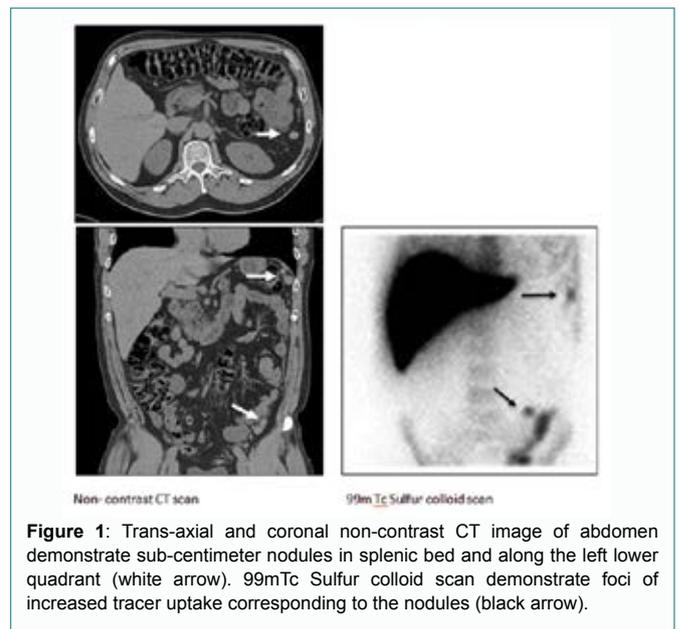
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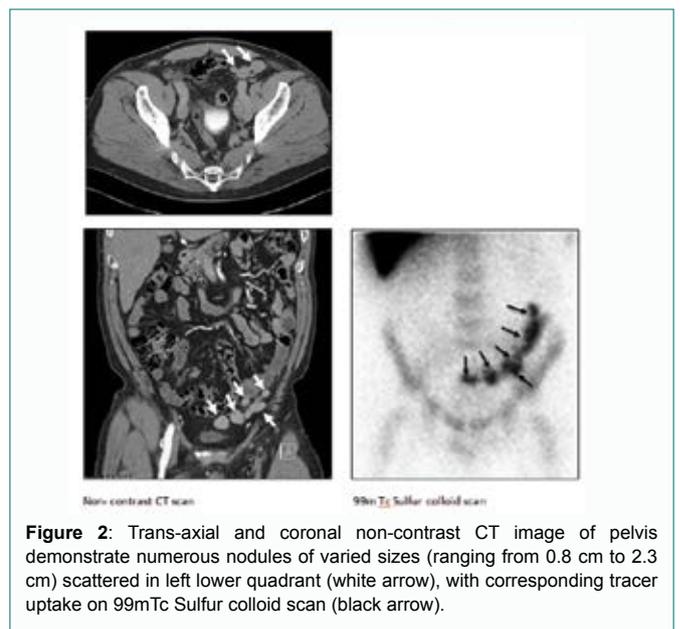
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**Figure 1:** Trans-axial and coronal non-contrast CT image of abdomen demonstrate sub-centimeter nodules in splenic bed and along the left lower quadrant (white arrow). <sup>99m</sup>Tc Sulfur colloid scan demonstrate foci of increased tracer uptake corresponding to the nodules (black arrow).



**Figure 2:** Trans-axial and coronal non-contrast CT image of pelvis demonstrate numerous nodules of varied sizes (ranging from 0.8 cm to 2.3 cm) scattered in left lower quadrant (white arrow), with corresponding tracer uptake on <sup>99m</sup>Tc Sulfur colloid scan (black arrow).

There are more sensitive imaging available for splenosis, like  $^{99m}\text{Tc}$  tagged heat denatured RBC scan, in which about 90% of heat denatured cells are taken up by the splenic tissues, thus increasing overall scan sensitivity and specificity. The drawback of this method is its poor availability and handling of blood products.

Additional imaging with SPECT/CT adds to the resolution of the scan [2]. Whenever a small splenic tissue/ accessory spleen is under question, SPECT/CT may provide a better yield of overall imaging. In our case, patient refused SPECT/CT acquisition. However, the planar images demonstrated good uptake and correlated well with CT findings.

## Conclusion

Scintigraphic imaging with  $^{99m}\text{Tc}$  Sulfur colloid is sensitive to demonstrate accessory splenic tissue in abdomen and may assist in diagnosis in cases of clinical dilemma. Functional imaging can therefore avoid unnecessary tissue biopsy that may be required for confirmation.

## References

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