A female patient presented with fever (38.5°C), without evidence of specific sites of infection, followed by progressive neutropenia (nadir value 0.3 × 10^9/L). Antibiotics produced no effects. Mechanisms leading to impaired neutrophil production were excluded. Whole-body scintigraphy with technetium-99m-hexamethylpropyleneamineoxime (99mTc-HMPAO)-labeled autologous leukocytes was performed, and a site of leukocyte sequestration localized at the medium lobe (right lung) was detected (Figure 1). Imaging with 99mTc-HMPAO-labeled leukocytes, used to detect abscesses and evaluate cases of fever of unknown origin, is also useful for diagnosing mechanisms of increased neutrophil sequestration/utilization.

References

Figure 1. Scintigraphy with 99mTc-HMPAO-labeled leukocytes (30 min after injection). Left side: whole body scintigraphy. A site of leukocyte sequestration (arrows) involving the right lung is shown. Right side: imaging of the lungs. A site of leukocyte sequestration involving the middle lobe (arrows) is shown.