Case 2: 70 year-old woman with onset of fever a few days after the procedure of chemo-embolization

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Clinical presentation

- 70 year-old woman.
- May 2000: liver transplantation because of hepatocellular carcinoma (HCC).
- August 2007: percutaneous trans-arterial chemoembolization for relapse of HCC.
- Onset of fever a few days after the procedure of chemoembolization.
The patient was hospitalized because of “fever after liver chemo-embolization”.

During hospitalization she underwent:

- Clinical examination: abdominal pain to palpation in upper right region of the abdomen.
- Acute-phase markers: ESR 37; C-Reactive Protein 8.4; Leukocyte count 9600/µL.
- Blood culture: *Ralstonia pickettii* and *E. Coli*.
- Pharyngeal swab: *Candida Albicans*.
- Abdominal US: negative for infection.
• Chest CT: parenchymal consolidation in lower lobe of the left lung.

• CT of the abdomen: negative for infection.
• September 2007: blood culture positive for *Aspergillus*; sputum positive for *E. Cloacae*; negative anti-*aspergillus* antibodies; chest CT (repeat): negative;

• Scintigraphy with labelled autologous leukocytes was performed to search for septic foci in fever of unknown origin.
Parameters of $^{99m}$Tc-HMPAO-WBC scintigraphy

• Labelling procedure according to the ISORBE consensus protocol.
• Scintigraphic acquisition parameters:
  1) Total-body and planar acquisition of abdomen 30 min after re-infusion of labelled leukocytes.
  2) Planar and SPECT/CT acquisitions of the abdomen at 2 hours post-re-infusion.
  3) Planar acquisition (with possible SPECT/CT acquisition) of other body regions at 6 hours post-re-infusion.

1) Planar total-body and spot acquisition of abdomen 30 minutes after re-infusion of labelled leukocytes
Planar and SPECT/CT acquisitions of abdomen 2 hours after re-infusion of labelled leukocytes
The scintigraphic report:

“Scintigraphic acquisition performed with total-body, planar and SPECT/CT imaging of the abdominal region 30 minutes, 2 and 6 hours post i.v. re-infusion of labelled leukocytes.

Multiple regions of abnormal accumulation of labelled leukocytes in the right lobe of liver.

Conclusions: Scintigraphic findings are suggestive of multiple infective foci in the liver."
Radionuclide imaging for suspected infection in the abdominal area should always be completed with abdominal SPECT/CT, in order to correctly identify and localize the anatomical site of the infective focus.