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IMAGE OF THE MONTH

Hepatic and splenic sarcoidosis as multiple micro-nodular formations

Sarcoidosis hepato-esplénica con patrón micronodular

Umberto G. Rossi[a,*], **Mariangela Rutigliani**[b], **Giancarlo Antonucci**[c], **Gian Andrea Rollandi**[d]

[a] *Department of Radiological Area – Interventional Radiology Unit, E.O. Galliera Hospital, Mura delle Cappuccine, 14, 16128 Genova, Italy*
[b] *Department of Laboratory and Service – Histological and Anatomical Pathology Unit, E.O. Galliera Hospital, Mura delle Cappuccine, 14, 16128 Genova, Italy*
[c] *Department of Medicine Area – Internal Medicine Unit, E.O. Galliera Hospital, Mura delle Cappuccine, 14, 16128 Genova, Italy*
[d] *Department of Radiological Area – Radiology Unit, E.O. Galliera Hospital, Mura delle Cappuccine, 14, 16128 Genova, Italy*

A 48-year-old woman arrived in our emergency department for acute upper abdominal pain with nausea. At the time of her presentation haematological examinations were within the normal limits, with just a minimum increase of reactive C protein (0.82 mg/dl). There was no alteration in liver function tests. Abdominal contrast-enhanced multi-detector computed tomography (MD-CT) revealed a heterogeneous structure of the liver and of the spleen with multiple micro-nodular formations and the presence of hepatic hilar lymph nodes (Fig. 1). These hepatic and splenic multiple micro-nodular formations and the hilar lymph nodes resulted PET/CT scan positive (Fig. 2); no thoracic signs were noted. Patient then performed serological (hepatitis, echinococcus, toxocara canis, leishmania) and parasitic (protozoa, helminths, and ectoparasites) tests, both types of tests resulted negative. ACE level was in normal range.

After multidisciplinary discussion, patient underwent ultrasound guided liver core needle biopsy. Hepatic histopathological evaluation demonstrated granuloma formations, T-lymphocytes, multinucleated giant cells, fibrosis and no malignant cells (Fig. 3). These data allowed us to make the diagnosis of sarcoidosis. Patient underwent medical treatment with corticosteroid and neither recurrence of hepatic and splenic sarcoidosis was noted at 9 months.

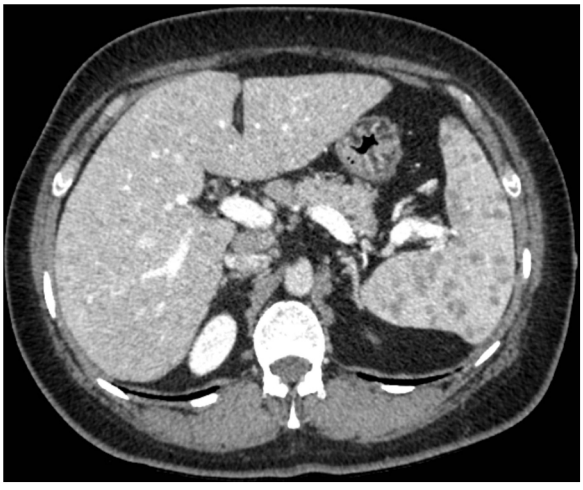

Figure 1 Axial MultiDetector Computed Tomography that shows the presence of hepatic and splenic multiple micro-nodular formations.

Sarcoidosis is a systemic granulomatous disease. Pulmonary findings are the most common site of disease activity.[1] It is rare extra-pulmonary disease as initial

* Corresponding author.
E-mail addresses: urossi76@hotmail.com, umberto.rossi@galliera.it (U.G. Rossi).

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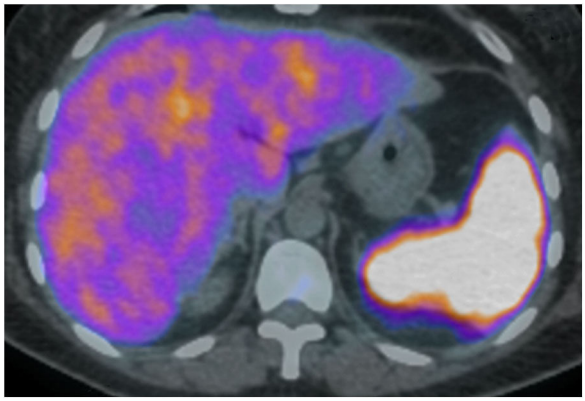

Figure 2 Axial PET/CT scan that confirms the increased SUV at liver and splenic level.

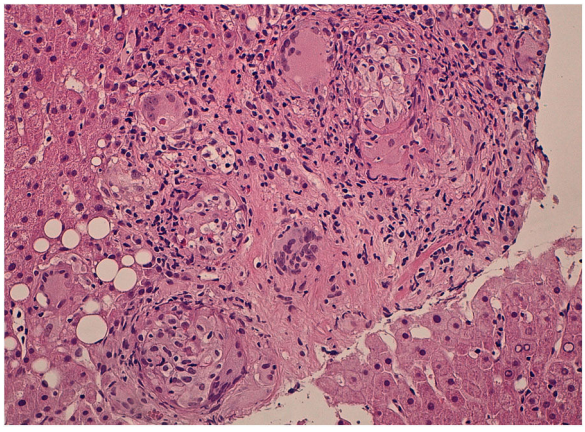

Figure 3 Histopathological evaluation that shows granuloma formations, T-lymphocytes, multinucleated giant cells and fibrosis.

findings in sarcoidosis, especially in hepatic and splenic parenchyma.[2,3] Imaging studies showed hepatic and splenic parenchymal heterogeneous structure changes due to granuloma formations, which must be differentiated from possible inflammatory or infectious or tumour processes.[2–5] These granuloma formations, like most metabolically active processes, are CT/PET positive. Laboratory markers are non-specific. But in 65% of patients' ACE level are elevated and in ¼ of patients liver function test are derangements.[2,6] Ultrasound guided core needle biopsy remains the minimally invasive manoeuvre for the certain differential diagnosis.[7,8]

Not all cases of hepatic and splenic sarcoidosis require treatment. But, symptomatic patients need it, and first line treatment includes corticosteroids or ursodeoxycholic acid.[9]

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Author's contribution

Umberto G. Rossi, MD, EBIR: write paper, diagnosis, images.
Mariangela Rutigliani: review paper, diagnosis, image.
Giancarlo Antonucci: review paper, diagnosis, treatment.
Gian Andrea Rollandi: contribution to write paper, diagnosis, images.

Conflict of interest

The authors declare that there is no conflict of interest.

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