

CASE REPORT

Splenic abscess due to acute brucellosis

Mehmet Deveer,¹ Hamdi Sozen,² Nesat Çullu,¹ Ali Kemal Sivrioglu³

¹Department of Radiology, School of Medicine, Mugla Sitki Kocman University, Mugla, Turkey

²Department of Infectious Diseases, School of Medicine, Mugla Sitki Kocman University, Mugla, Turkey

³Department of Radiology, Aksaz Military Hospital, Mugla, Turkey

Correspondence to
Dr Mehmet Deveer,
deveer3@hotmail.com

SUMMARY

Splenic abscess due to acute brucellosis is a rare event. We report a case of splenic abscess caused by *Brucella* spp. in a 21-year-old man. The MRI revealed sharply demarcated lesions measuring 20 and 30 mm in diameter at the superior pole of spleen. Positive Wright agglutination test and positive blood culture confirmed the diagnosis. Antibiotic therapy, without surgical intervention, was successful.

BACKGROUND

Brucellosis is one of the most widespread zoonoses worldwide.¹ *Brucella melitensis* (small ruminants), *Brucella abortus* (cattle), *Brucella suis* (swine) and *Brucella canis* (dogs) are known to cause human disease. *B melitensis* is the most common casual agent of human cases.² The disease is most prevalent in Mediterranean countries.³ Brucellosis is a systemic infection, ranging from asymptomatic disease to severe and/or fatal illness.⁴ Splenic abscess due to brucellosis is extremely rare. Diagnosis and localisation of the abscesses are relatively easy with the use of ultrasonography, CT and MR. Here we report a case of splenic abscess due to brucellosis in an adult patient with acute brucellosis.

CASE PRESENTATION

A 21-year-old man was referred to our hospital with 2 weeks' history of weakness, abdominal pain, arthralgia and night sweats. He was a farmer by occupation. On physical examination his axillary temperature was 38.9°C. The liver and spleen was palpable. No lymphadenopathy was present.

INVESTIGATIONS

Laboratory tests revealed the following results: Haemoglobin 14.3 g/dl, leukocyte count 6300/mm³, (polymorphonuclear leukocyte %41, Lymphocyte % 47.8), aspartate aminotransferase 261 IU/l(N:0–41), alanine transaminase 272 IU/l(N:0–54), γ -glutamyltransferase 449 IU/l(N:0–50), alkaline phosphatase 377 IU/l(N:38–126), Total bilirubin level 0.7 mg/dl (N:0.1–2). Chest x-ray was normal. Abdominal ultrasonography revealed hepatomegaly (19 cm), splenomegaly (17 cm) and 2 hypoechoic lesions in the upper portion of spleen. Because of suspicious image in ultrasonography (USG), abdominal MRI was performed and sharply demarcated hyperintense lesions measuring 20 and 30 mm in diameter at the superior pole of spleen were detected as occult splenic abscess on coronal half-fourier acquisition single-shot turbo spin-echo sequence (figure 1). Fat-suppressed T2 axial image shows a weak hyperintense lesion at the superior pole of spleen (figure 2). On the second day of hospitalisation Wright

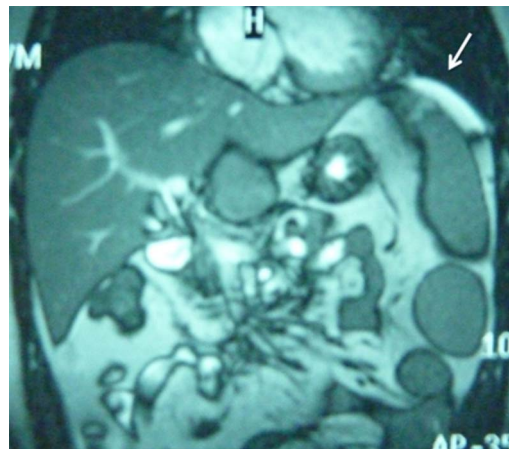


Figure 1 MRI showing sharply demarcated hyperintense lesions at the superior pole of spleen on coronal half-fourier acquisition single-shot turbo spin-echo sequence.

agglutination test was reported positive (1:1280) and blood culture also yielded positive result on the fifth day of hospitalisation.

DIFFERENTIAL DIAGNOSIS**Treatment**

Oral doxycycline (200 mg/day), oral ciprofloxacin (1000 mg/day) and intramuscular streptomycin (1 g/day) were started as therapy. The patient was afebrile 72 h after the initiation of the therapy.

A 12-week course of antibiotic therapy was completed, which included 21 days of intramuscular streptomycin therapy.

Outcome and follow-up

A follow-up USG of the abdomen at the end of therapy showed a complete resolution of the splenic abscess. Six and 12 months later, the patient remained free of symptoms.

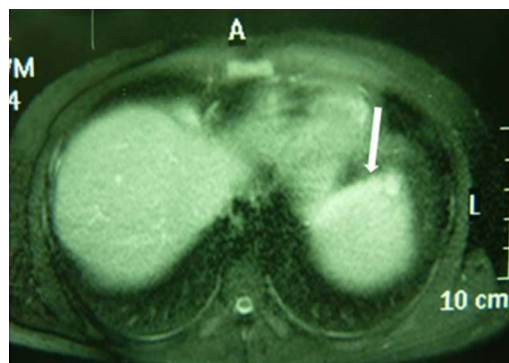


Figure 2 Fat-suppressed T2 axial image shows a weak hyperintense lesion at superior pole of spleen.

To cite: Deveer M, Sozen H, Çullu N, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2012-008485

DISCUSSION

Brucellosis is an endemic disease in Turkey. It is transmitted to humans via consumption of unpasteurised milk and milk products or direct contact with infected animals. The disease is recognised as an occupational risk, and our patient had a history of exposure to animals. Brucellosis is a multisystemic illness, all organs and systems can be affected by the complications.^{5,6} Splenic abscess formation is an unusual complication of human brucellosis. The limited number of previous reports was mostly associated with chronic infection.⁷⁻⁹ Splenic abscesses were associated with *Brucella* endocarditis in two other previous reports.^{2,10} Pourbagher *et al* reported splenic abscess in brucellosis in 1.60% cases. They defined multiple hypoechoic nodules representing small abscesses in the splenic parenchyma in the acute stage of brucellosis. They also detected enlarged periportal lymph nodes which was more frequent in the acute stage.¹¹ In the present case, the patient had acute brucellosis. The splenic lesions, which were rather larger than previous reports, had hypoechoic internal texture and well-defined margins on USG and they were sharply demarcated and had a homogeneous hyperintense on MRI. Calcification in liver and spleen is characteristic of chronic disease.⁷ In our patient, USG examination showed no calcification in the spleen or liver. No enlarged periportal lymph nodes were present.

The patient was successfully treated with 3-drug combinations of antibiotics. After 3 months of therapy, follow-up USG of the abdomen showed complete resolution of the splenic abscess.

In conclusion with the advent of imaging techniques such as USG and MRI, diagnosis of the unusual presentation of brucellosis such as splenic abscess is relatively easy. Clinicians practising in areas where brucellosis is endemic should be aware of this unusual complication.

Contributors All authors who have participated in the work have contributed equally in planning, conducting and reporting the article.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Bosilkovski M, Dimzova M, Grozdanovski K. Natural history of brucellosis in an endemic region in different time periods. *Acta Clin Croat* 2009;48:41–6.
- 2 Pappas G, Akritidis N, Bosilkovski M, *et al*. Brucellosis. *N Engl J Med* 2005;352:2325–36. Review.
- 3 Yilmaz MB, Kisacik HL, Korkmaz S. Persisting fever in a patient with brucella endocarditis: occult splenic abscess. *Heart* 2003;89:e20.
- 4 Colmenero JD, Reguera JM, Martos F, *et al*. Complications associated with *Brucella melitensis* infection: a study of 530 cases. *Medicine (Baltimore)* 1996;75:195–211. Erratum in: *Medicine (Baltimore)* 1997 Mar;76(2):139.
- 5 Dakdouk GK, Araj GF, Awar GN. Buttock abscess brucellosis. *Scand J Infect Dis* 2002;34:934–6.
- 6 Miranda RT, Gimeno AE, Rodriguez TF, *et al*. Acute cholecystitis caused by *Brucella melitensis*: case report and review. *J Infect* 2001;42:77–8. Review.
- 7 Ariza J, Pigrau C, Cañas C, *et al*. Current understanding and management of chronic hepatosplenic suppurative brucellosis. *Clin Infect Dis* 2001;32:1024–33.
- 8 Vallejo JG, Stevens AM, Dutton RV, *et al*. Hepatosplenic abscesses due to *Brucella melitensis*: report of a case involving a child and review of the literature. *Clin Infect Dis* 1996;22:485–9. Review.
- 9 Sayilir K, Iskender G, Oğan MC, *et al*. Splenic abscess due to brucellosis. *J Infect Dev Ctries* 2008;2:394–6.
- 10 Saadeh AM, Abu-Farsakh NA, Omari HZ. Infective endocarditis and occult splenic abscess caused by *Brucella melitensis* infection: a case report and review of the literature. *Acta Cardiol* 1996;51:279–85. Review.
- 11 Pourbagher MA, Pourbagher A, Savas L, *et al*. Clinical pattern and abdominal sonographic findings in 251 cases of brucellosis in southern Turkey. *AJR Am J Roentgenol* 2006;187:W191–4.

Learning point

- Brucellosis is one of the most widespread zoonoses worldwide. Brucellosis is a systemic infection, ranging from asymptomatic disease to severe and/or fatal illness. Splenic abscess due to brucellosis is extremely rare. The advent of imaging techniques such as ultrasonography and MRI, diagnosis of the unusual presentation of brucellosis such as splenic abscess is relatively easy. Clinicians practising in areas where brucellosis is endemic should be aware of this unusual complication.

Copyright 2013 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- Submit as many cases as you like
- Enjoy fast sympathetic peer review and rapid publication of accepted articles
- Access all the published articles
- Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow