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Photoquiz – Fever and neck pain in a 74-year old man

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CASE REPORT

In August 2014, a 76-year-old man living in Sicily, Italy, presented to the Unit of Infectious Diseases with a 15-day history of fever, asthenia and painful swelling of the thyroid. He had recently undergone coronary artery bypass grafting after acute myocardial infarction and had been started on aspirin and ticagrelor. Physical examination revealed a pale, febrile patient with a large tender mass of the anterior neck. He also complained of diffuse joint pain. He had neutrophilic leukocytosis, anemia and increased C-reactive protein concentration. Thyroid hormones and thyroid stimulating hormone were within the normal range. Serum anti-thyroperoxidase and anti-thyroglobulin antibodies were negative.

On ultrasound, the thyroid was enlarged, especially the left lobe and isthmus, where a large dyshomogeneous lesion with irregular borders and internal echoes was detected. Contrast-enhanced Computed Tomography (CT) scan of the neck confirmed the presence of an abscess measuring 40 x 47 x 48 mm, that extended into the mediastinum, causing tracheal dislocation (Figure 1).

WHICH IS YOUR DIAGNOSIS?

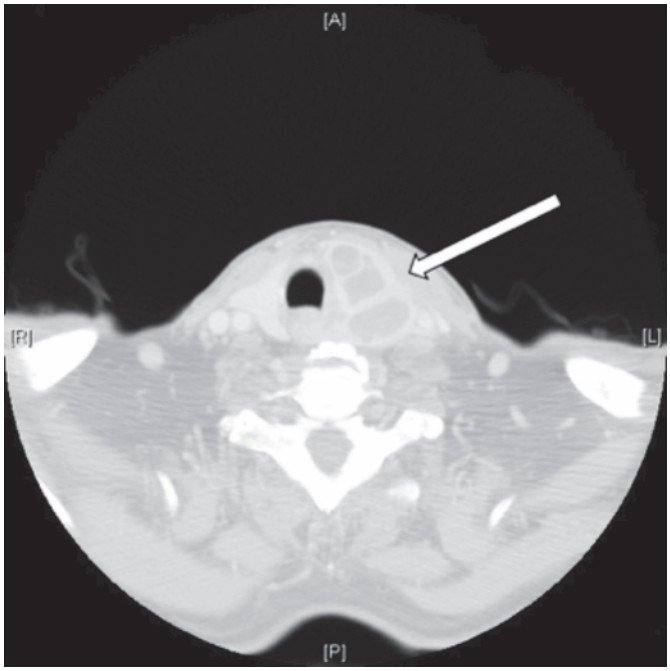

Figure 1. Computed tomography scan of the neck showing a large multiloculated mass of the left lobe and isthmus of the thyroid (40x47x48 mm). The mass had a mixed solid-cystic pattern and was responsible for tracheal dislocation (*arrow*).

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Wright serum agglutination test was positive with a titer of 1:1280. The patient was started on doxycycline (100 mg twice daily orally) and ciprofloxacin (500 mg twice daily orally), as he could not receive rifampicin due to the interaction with ticagrelor. Moreover, he underwent an incision and drainage procedure, which yielded pus growing B. *melitensis*. Blood cultures were negative.

He was discharged with the advice to continue antibiotic therapy up to 6 weeks. At follow up, he had recovered, and a CT scan confirmed the complete disappearance of the abscess.

Brucellosis is a zoonotic disease caused by Brucella (B.) *species*, especially B. *melitensis*[1]. The main reservoirs of Brucella are cattle, sheep, goats and pigs. Ingestion of infected unpasteurized milk or dairy products prepared from unheated milk is the main source of infection for most populations. Moreover, certain individuals, including farmers, stockmen, shepherds, veterinarians and inseminators, are at risk through direct contact with infected animals or exposure to a contaminated environment[1]. Brucellosis is widely distributed worldwide, with an estimated incidence of 500,000 cases per year[2]. Although the introduction of more stringent public and animal health programs has effectively reduced the burden of the disease in many countries, brucellosis is still highly prevalent in the Mediterranean basin and Arabian Peninsula, South and Central America, South and Central Asia[3]. Brucellosis usually presents as an acute or subacute febrile disease. Symptoms are often nonspecific, including fever, sweats, fatigue, weight loss and arthralgia. Brucellosis may affect numerous sites, including the liver, the spleen, the lymph nodes, the cardiovascular, osteoarticular, genitourinary and nervous system[1]. Thyroiditis is an uncommon complication of brucellosis, with only a few reports described in the literature[4-6]. The vast majority of cases occurred in individuals living or coming from endemic areas. Patients usually present with acute suppurative thyroiditis, and have normal thyroid function. Cultures from thyroid aspirate and blood may yield Brucella *spp*., even if previous antibiotic treatment can be responsible for negative cultures. Serum brucella agglutination test is generally positive at a titer ≥1:160. In the published cases, the majority of patients were successfully managed with antibiotic treatment alone, the most common being doxycycline plus rifampicin for 6 weeks.

CONCLUSIONS

Brucellosis can present with unusual localizations, including thyroiditis. Brucellosis should be considered in any febrile patient living in endemic areas. However, with the growing phenomena of migration and international tourism, clinicians should include brucellosis in the differential diagnosis even in non-endemic areas and try to obtain a detailed travel and dietary history in order to avoid delayed diagnosis and chronicization.

Conflict of interest:
None declared. Written informed consent from the patient was obtained for the case to be published.

REFERENCES

1. Corbel M. Brucellosis in Humans and Animals: FAO, OIE, WHO. Available: http://www.who.int/csr/resources/publications/Brucellosis.pdf. Accessed 2015 June 2
2. Pappas G, Papadimitriou P, Akritidis N, Christou L, Tsianos EV. The new global map of human brucellosis. Lancet Infect Dis 2006; 6: 91-99.
3. Dean AS, Crump L, Greter H, Schelling E, Zinsstag J. Global burden of human brucellosis: a systematic review of disease frequency. PLoS Negl Trop Dis 2012; 6: e1865.
4. Azizi F, Katchoui A. Brucella infection of the thyroid gland. Thyroid 1996; 6: 461-463.
5. Von Graevenitz A, Colla F. Thyroiditis due to brucella melitensis-report of two cases. Infection 1990; 18: 179-180.
6. Mousa AR, al-Mudallal DS, Marafie A. Brucella thyroiditis. J Infect 1989; 19: 287-288.