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Under-reporting rates and estimated incidence of brucellosis in the General Hospital of Kalamata

Brucellosis is a zoonotic infection caused by the various different species of *Brucella*. The possible means of brucellosis acquisition include infection from a contaminated environment, occupational exposure usually resulting from direct contact with infected animals, foodborne transmission and person-to-person transmission. *B. melitensis* (sheep and goats) is the most common causative agent for human brucellosis followed by *B. abortus* (cattle), *B. suis* (pigs) and *B. canis* (dogs).¹ Greece is among the 25 countries with the highest incidence of brucellosis worldwide and has one of the highest notification rates in Europe.^{2,3} It has been estimated that the true incidence of brucellosis may be 26 times higher than the reported incidence, due mainly to misdiagnosis and under-reporting.⁴

An effort was made to estimate the incidence of brucellosis and the rate of under-reporting in the General Hospital of Kalamata, a 300-bed public hospital, serving an area of over 170,000 population in the region of Messinia in south western Greece. Retrospective analysis was made of the records of patients admitted to this hospital during the period January 2009–August 2011 who had a positive Standard Agglutination Test (SAT) Wright. A titer of 1:160 or greater was considered to represent the presence of specific *Brucella* agglutination antibodies (i.e., seropositive).⁵ An index case of probable brucellosis was defined by the presence of relevant clinical symptoms with a positive Wright

agglutination test. During the study period 17 patients were found to have a positive Wright test, 9 of which were women and 8 men. Of these, 15 were Greeks and 2 had been born in other countries. Indications compatible with clinical and serological brucellosis were found in 6 patients (4 men, 2 women), all of whom received the appropriate treatment. As the majority of patients with brucellosis in this region usually attend this hospital for diagnosis and treatment, the estimated incidence of brucellosis in the area is 1.28 cases/100,000 population/year as the population of Messinia was 175,587 inhabitants according to the 2011 Census. In a search for the reported cases of brucellosis in Messinia it was found that only one of these 6 cases of brucellosis was reported.

According to these findings, the estimated incidence of brucellosis in the region of Messinia is slightly lower than the Greek average (2.2 cases/100,000 population/year).⁶ This can be explained by the fact that not all patients with brucellosis need to be admitted and investigated as inpatients in the hospital. What is worrying, however, is that the reporting rate of the disease was very low, even compared with neighbouring prefectures in the south western part of Greece, such as the Achaia prefecture.⁷ As brucellosis reporting is the first most important step in establishing an effective control program, these data should be of concern to the health authorities, especially at the time of economic crisis when funds allocated for public health are constantly being reduced.

G. Michas,¹ C. Ktisti,² E. Tsoulakou,²
V. Antonopoulou,³ A. Anagnostopoulou,^{2,3} E. Vryonis^{1,2,4}

¹Department of Internal Medicine, ²Infection Prevention and Control Committee, ³Department of Microbiology, General Hospital of Kalamata, Kalamata, Greece, ⁴North Middlesex University Hospital NHS Trust, London, UK

ΠΕΡΙΛΗΨΗ

Ποσοστά υπο-αναφοράς και εκτιμώμενη επίπτωση βρουκέλλωσης στο Γενικό Νοσοκομείο Καλαμάτας

Γ. ΜΙΧΑΣ,¹ Χ. ΚΤΙΣΤΗ,² Ε. ΤΣΟΥΛΑΚΟΥ,²
Β. ΑΝΤΩΝΟΠΟΥΛΟΥ,³ Α. ΑΝΑΓΝΩΣΤΟΠΟΥΛΟΥ,^{2,3}
Ε. ΒΡΥΩΝΗΣ^{1,2,4}

¹Τμήμα Εσωτερικής Παθολογίας, ²Επιτροπή Νοσοκομειακών Λοιμώξεων, ³Μικροβιολογικό Τμήμα, Γενικό Νοσοκομείο Καλαμάτας, Καλαμάτα, ⁴North Middlesex University Hospital NHS Trust, Λονδίνο, Ηνωμένο Βασίλειο

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Corresponding author:

E. Vryonis, Locum Consultant in Infectious Diseases and Acute Medicine, North Middlesex University Hospital NHS Trust, Sterling Way, London N18 1QX, UK
e-mail: evrionis@gmail.com