

## GUEST EDITORIAL THE RETURN OF BRUCELLOSIS

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Brucellosis, also known under the names of Undulant fever, Mediterranean fever and Malta fever is closely linked with Malta's medical history and for long endemic to our Islands.<sup>1</sup> The stamp illustrated in the last issue of the MMJ and featuring Sir David Bruce and Sir Themistocles Zammit commemorates the FAO Anti-Brucellosis Congress held in Malta.<sup>2</sup> Although the prevalence of brucellosis has decreased considerably, it has remained endemic in spite of an intensive national screening and slaughtering programme by the veterinary services (Fig. I).

In 1994, the Disease Surveillance Branch of the Department of Public Health confirmed 8 cases, never more than one case per month except in May and December in each of which two cases were reported.

However, during the third week of May 1995 the Microbiology Laboratory at St. Luke's Hospital reported three confirmed new cases. This brought the crude cumulative incidence for 1995 to seven. The reports of confirmed cases continued to increase and when six new cases had been confirmed within a period of ten days, an outbreak was declared and a national press release was issued. All these cases were associated with the consumption of fresh cheeselets made from unpasteurised milk (the traditional source of infection)<sup>1</sup> and this press release warned the general public that such gbejniet were not to be consumed raw.

A case was defined as:

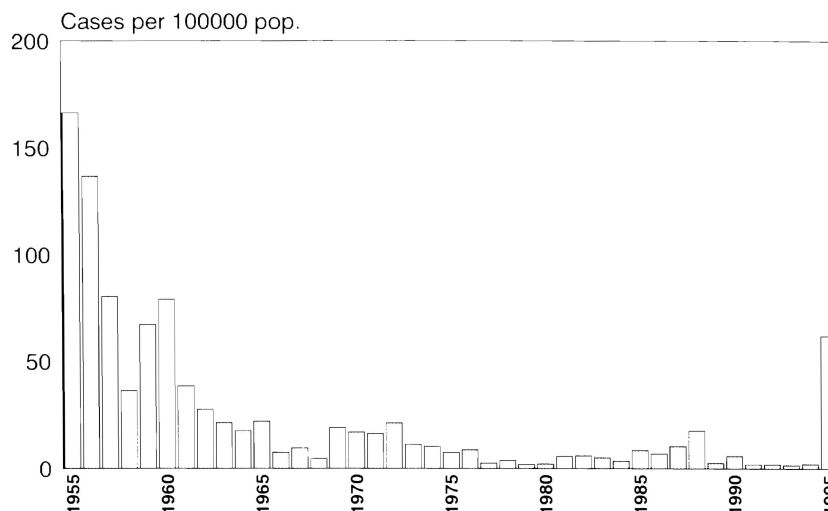
- any person presenting with the onset of any one symptom of: fever/chills/sweating, weakness, headache, arthralgia, localised suppurative infection, encephalopathy, and a Brucella antibody titre of > 1 in 320 dilution or a positive culture of *B. melitensis*; OR
- any household member of a confirmed case, whether symptomatic or not, with a Brucella antibody titre of > 1 in 320 dilution OR
- anyone with a positive culture of *B. melitensis*.

By the 28 December 1995, 213 symptomatic cases were confirmed while 15 asymptomatic cases in 28 household clusters (range: 2 - 4 cases per household cluster; mean: 2.14 cases) were picked up through epidemiological investigation and screening. There was no gender difference (111 (48.7%) females and 117 (51.3%) males). Several chronic sequelae were recorded mainly related to osteoarticular and kidney complications. One 60 year old man, whose wife stated that he had been feverish for some three months before diagnosis, died from central nervous system complications. 97 patients were admitted to hospital for treatment and on average spent 3.88 days as in-patients. Apart from these cases, several persons with symptoms including children, were found to have a lower antibody titre. On further follow-up, the titre in most cases remained the same or dropped without new symptoms developing - these were excluded from the outbreak case register. The standard treatment regime recommended was a six week course of oral tetracycline 500mg qid (co-trimoxazole in children) together with oral rifampicin 300 to 600mg daily. Very recently there has been anecdotal evidence of relapse in some cases, even with this combined regime.

Every reported case was investigated by the medical officers of health who contacted the head of each affected household for an epidemiological enquiry including a food history. In every case the source of the cheeselets consumed by the family over the six months prior to the onset of symptoms was established. Some 900 kgs of cheeselets from 27 producers, 12 wholesalers and 384 retailers were seized and tested.

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**Fig. 1. Confirmed Notified Cases of Brucellosis***Crude Incidence Rate per 100000 population (until 28 December 1995)*

Source: Departments of Health Information and Public Health

Each implicated farm or herd was visited by the local health inspector and over 1000 samples of fresh milk (where available) from the sheep, cows or goats were taken for screening (using the brucella melitensis milk ring test) or for culture where indicated. Positives were identified in 18 herds from Gozo and 9 herds from Malta. These were reported to the government veterinary services who proceeded with blood testing of the cattle. Any herd with more than 10% positives was depopulated. Until the end of November 1995, the veterinary services had tested 3161 herds in Malta (39 reacted positively) and 1396 herds in Gozo (1 found positive but on re-testing was found negative) and depopulation or partial slaughter was carried out.<sup>3</sup>

The main source of this outbreak appears to have been three owners who were keeping infected 'phantom' herds hidden from the vets. Two of these had been prosecuted for identical offences a few years previously. The spread through to the other herds is believed to have occurred when owners fragmented their unregistered herds and sold them off cheaply in order to avoid depopulation. The problem therefore has stemmed mainly from irresponsible behaviour of herd owners.

In response to this outbreak a government intersectoral committee has prepared new regulations which will effectively ban the sale of fresh cheeselets by weight. In future all cheeselets will be packaged and the label will indicate whether the product is made from pasteurised milk or not, the latter needing to be cooked prior to consumption. Pasteurisation, unlike boiling, does not alter the taste significantly.

Meanwhile the Disease Surveillance Branch is still receiving reports of new cases at a rate of one a week and the possibility that a focus of infection still exists cannot be excluded.

The official advice of the Department of Health remains that the consumption of raw cheeselets made from unpasteurised milk, pleasant though they may taste, is still to be considered an unsafe practice and must always be avoided. To date only cheeselets made by the national dairy are made from pasteurised milk. Should the individual be uncertain of the origin of the cheeselet presented (at a reception for example) the advice is not to risk consuming them, at least until the new regulations are effected.

## References

1. Cassar P. Sir Themistocles Zammit and the controversy on the goat's role in the transmission of brucellosis (Mediterranean fever) 1909-1916. Information Division, Valletta 1981.
2. Camilleri G. Medicine in Maltese Stamps. *Malt Med J* 1995; VII(1):45.
3. Vella CL. Director Veterinary Services. Personal communication 1995.

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