A 49-year-old male from the Dubbo district became ill on a trip to Queensland and was admitted to hospital with pyrexia of unknown origin on January 17, 1993. Symptoms included a high fever, rigors, a nervous twitch and night sweats.

DISCUSSION

The infectious agent of brucellosis in humans are Brucella abortus, B. melitensis, B. suis and B. canis of which two – B. abortus and B. suis – are endemic in Australia.

B. abortus affects cattle and other bovines. B. suis usually affects pigs but can be transmitted to cattle. Human brucellosis occurs most commonly in people such as farmers, veterinarians and abattoir workers, who are occupationally exposed to infected domestic animals, or in people who drink unpasteurised cows' milk. Brucellosis is a systemic disease with acute or insidious onset, characterised by continued, intermittent or irregular fever of variable duration, headache, weakness, profuse sweating, chills, arthralgia, depression, weight loss and generalised aching. Localised supplicative infections may occur. Infections are frequently subclinical and unrecognised. Onset is variable, commonly ranging from 5-60 days but can be as long as several months. Duration can also vary, ranging from several days to occasionally a year or more. Blood cultures are recommended for unequivocal diagnosis of brucellosis.

A national brucella and tuberculosis eradication campaign was begun in the early 1970s. The campaign targeted bovine B. abortus with a number of control strategies. A vaccination program initially targeted at heifer calves, followed by a vaccination program for adult cattle, was undertaken. Blood samples were collected at abattoirs for testing and, where positive, tail tag tracing was undertaken, followed by herd testing on implicated properties. Bulk milk samples from dairy farms were also tested and implicated properties were similarly herd tested. Properties that came to notice because of abortion problems were also followed up with herd testing. Subsequently a program of testing every cattle herd in NSW was undertaken. Herds which had no history of brucellosis were tested at least three times. Herds with problems were followed up at two-month intervals. Compensation was paid to farmers for stock that was destroyed.

The program was effective and Australia was declared free of bovine brucellosis in July 1989. Human brucellosis declined concomitantly until the mid-1990s, when an increase was observed in Central and South-East Queensland – predominantly due to B. suis associated with feral pig hunting and processing.

Blood cultures were not performed in this case and it is not possible to distinguish B. abortus from B. suis infection on serology alone. There was no history of exposure to feral pigs during the travel to Queensland and it is unlikely that this was a case of B. suis infection following recent exposure to feral pigs. It is possible the serology reactions were due to a very old infection in the light of the patient's contact with B. abortus-infected cattle on the Armidale property some 20 years previously. The incubation period seems very short if the source of infection was the animal slaughtered 10 days before the onset of illness, however this is not impossible. As the man travelled to Queensland after the slaughtering of the steer the incubation period for any B. suis infection acquired in Queensland would be even shorter. Investigation of human cases should try to identify any animal contacts in the three months before onset. Isolation by blood culture should be attempted in suspected cases of human brucellosis as it is of importance to identify the infective organism to assist in determining the source and the possibility of B. abortus infection in the domestic animal population.