

ABORTION DUE TO BRUCELLA ABORTUS IN SHEEP IN IRAN*

E. Zowghi and A. Ebadi

Abstract

A study on natural *Brucella abortus* infection in sheep was carried out from 1983 to 1987 at the Razi Institute in Iran. A total of 636 fetuses from sheep were examined bacteriologically and *B. abortus* was isolated from 6(1%) cases. All isolates were classified by biotype procedures and were *B. abortus* biotype 3. It was postulated that sheep may act as a reservoir of *B. abortus* infection for cattle.

Introduction

The first report on the isolation of *B. abortus* in Iran as the cause of abortion in cattle dates back to 1944 (8). Since then, this organism has been isolated on numerous occasions from bovine fetuses and milk of cows (10, 11).

It is recognised that the most frequent cause of abortion in sheep is *B. melitensis*, while *B. abortus* may occasionally infect sheep under normal conditions (5).

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This organism may remain in the tissues of infected sheep for a long time and be localised in the udder and uterus, with occasional abortion (2, 4, 5).

The relationship of *B. abortus* to abortions in sheep has been reported in several countries, either through isolation of the organism from fetuses or through serological tests (1, 2, 4, 5, 6, 9).

In Iran, the first reported isolation of *B. abortus* from sheep as a cause of abortion in these animals was in 1983. Zowghi and Ebadi (unpublished data) reported the isolation of the organism from a aborted sheep fetus in 1983. This paper provides particulars of the *B. abortus* cases recorded in sheep in Iran from 1983 to 1987.

Materials and Methods

Between 1983 and 1987, a total of 636 fetuses from sheep were examined. Samples of spleen, liver, lungs and abomasal contents of all fetuses were inoculated onto agar plates of serum dextrose medium with antibiotics (3). All plates were incubated at 37°C in a carbon dioxide incubator for *B. abortus*, and in an ordinary incubator for *B. melitensis*. They were examined 4 to 7 days later for *Brucella*-like colonies. The isolates were tested for smooth and rough colonies and examined for agglutinability by using *B. abortus* and *B. melitensis* monospecific antisera. Subcultures of colonies which were agglutinated by *B. abortus* antiserum were prepared on *Brucella* agar slopes, and incubated at 37°C in a carbon dioxide incubator (as mentioned above) for 2 to 3 days. Hydrogen sulphide production was evaluated by using lead acetate paper within tubes containing *Brucella* agar medium. The isolates, after being tested for purity, were biotyped using techniques recommended by Alton *et al.* (3) and Corbel *et al.* (7).

Results

Of the 636 fetuses tested from 1983 to 1987, 6 were positive for *B. abortus*. The rate of positive cultures for this organism was 1%.

All isolates belonged to *B. abortus* biotype 3, which is the most widespread type among cattle in Iran.

Discussion

Since 1944, when *B. abortus* was reported as a causal agent of bovine abortion in Iran (8), this organism has been isolated from fetal material and milk of cows in different parts of the country (10, 11). In spite of continuous efforts to combat brucellosis, particularly in cattle, *B. abortus* is still widespread in many areas of the country.

In an area where bovine brucellosis is endemic, sheep could be expected to carry *B. abortus*. This organism was first isolated from an ovine fetus in 1983, and since then 6 isolations have been made.

In Iran, brucellosis in sheep and goats is chiefly caused by *B. melitensis*, but *B. abortus* may sometimes infect sheep even under normal conditions. This result suggests an increasing prevalence of *B. abortus* infection in sheep. Consequently, it is necessary to control the movement of animals and to continue vaccination procedures.

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