

monly used antibiotics, except sulphonamides.

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Diagnosis of Ovine Brucellosis

DEAR SIR:

Brucella ovis is recognized as the most important cause of contagious ovine epididymitis in many countries where sheep raising is economically important (1,2). Ovine brucellosis has been regarded as a cause of infertility in rams and may also affect newborn lambs or cause abortion in ewes (2,3). As the condition is insidious and chronic its diagnosis can be difficult. The complement fixation (CF) test, the most widely used method for the detection of antibody to *B. ovis* in suspect rams, has been extensively evaluated in Australia and New Zealand and adopted for the ovine brucellosis eradication program in those countries (1,2,4).

The Animal Diseases Research Institute, Nepean, Ontario, detected a few serologically positive animals in Alberta flocks in 1981, and subsequently the test capability was introduced to our laboratory. Since that time (1981-83) 1,792 sera have been tested from rams on 114 Alberta farms. A total of 116 sera from 23 flocks gave a positive CF reaction. Another 171 animals were interpreted

as "suspicious" from these and an additional 26 flocks. The Alberta Agriculture, Animal Health Laboratory, Edmonton, examined the testes of rams shipped for slaughter, and confirmed *B. ovis* epididymitis in six of the positive flocks by cultural isolation.

Although the above figures indicate positive CF reactions in 20% of flocks in which rams were tested, this does not necessarily represent the true prevalence of *B. ovis* infection in Alberta. This is because sample selection usually tends to be biased towards flocks suspected of being infected due to the appearance of clinical or reproductive problems. However, the fact remains that *B. ovis* epididymitis exists in this province at a higher rate than was suspected.

There has been some confusion and divergence of opinion among veterinarians and farmers concerning the diagnostic reliability of the CF test. This is not surprising, as similar concerns have been expressed by veterinary and livestock personnel in New Zealand (5,6,7,8). Despite marked differences in the epidemiology, pathology and serology, of ovine and bovine brucellosis, there may be a tendency to

interpret results of serological tests for these two diseases in a similar manner. Bovine brucellosis control programs have established well defined criteria and procedures for the detection of infected animals. The same cannot be said of ovine brucellosis. In particular, the CF test for *B. ovis* is known to give both false positive and false negative results in certain cases (1). Our experience indicates that there may be more false positives than false negatives, particularly at lower titers. High titer positive reactions (1:50 or more) have always been associated with rams from flocks diagnosed as being infected with *B. ovis* by clinical or bacteriological examinations. Such infected flocks contain a large percentage (30% or more) of high titer reactors when first tested and they have clinical findings and histories consistent with established descriptions of ovine brucellosis.

The factors mentioned above indicate that a veterinarian involved in testing rams for *B. ovis* epididymitis should not absolve himself from further responsibility simply by collecting blood samples, forwarding them to a laboratory, and diagnosing the disease solely on the basis of CF

test results. These results should be used as an aid to diagnosis and considered together with clinical history, palpation and other procedures, such as semen examination, before a definitive diagnosis is made. Serological tests done on single animals with no flock history have relatively little value and should be discouraged. Particularly confusing are the single-tested animals which show "suspicious" CF titers. In addition, it should be noted that in palpating male genitalia for epididymitis not all abnormalities are attributable to infection by *B. ovis*. An excellent review on various causes of ovine epididymitis has been published recently (2).

Although the CF test for *B. ovis* has its shortcomings, it is the most reproducible of the serological tests avail-

able. It has been successfully used in Australia and New Zealand, in conjunction with other procedures, to eliminate ovine brucellosis from many ram flocks. However, there is a need for more sensitive and more specific serological tests to improve laboratory diagnostic efficiency. Research efforts at this Institute are currently oriented in this direction with emphasis on the development of an enzyme-linked immunosorbent assay for the diagnosis of *B. ovis* infection.

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Reduction of Animal Suffering

DEAR SIR:

I have been following the discussions in the Canadian Veterinary Journal concerning shipping fever in cattle. This disease, of course, historically has dominated veterinary medicine and has involved the labors of first-rate scientists for some time. The purpose of this letter is not to discuss the differences of opinion, or new scientific information on this matter as has your Journal, but to comment on a letter from Dr. D. Mitchell, (*Can Vet J* 1983; 24: 267).

I commend Dr. Mitchell's conten-

tion that an understanding of the pathogenesis of shipping fever pneumonia and the development of immunological control measures, combined with improved management, "can reduce the animal suffering and economic loss caused by this disease".

It is unfortunate that veterinarians have all too often overlooked the fact that the prevention of a disease or its successful treatment, precludes or lessens the animal suffering. It is important, in today's society, that the profession emphasize its concern about the welfare of the animals its members are treating, and accept and,

indeed, promulgate the fact that the veterinary profession is the undisputed leader in preventing animal suffering through measures such as those noted above. It would be hoped that more will follow Dr. Mitchell's lead and emphasize the prevention or reduction of animal suffering, thus demonstrating the importance of the veterinarian to the welfare of the animal.

Yours sincerely,

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