

Class of '49

Brucellosis Tests

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DURING their last quarter as veterinary students many members of the Class of '49 expressed interest in their personal status with regard to brucellosis. Information of this sort seemed desirable at this time since the chance of contracting brucellosis would increase upon graduation and engaging in practice. Knowledge of the presence or absence of reaction to brucellosis might in some cases aid in diagnosis in the event of future illnesses.

The accompanying table is a summary of tests on 55 of the graduating class of 65.

The opsonocytophagic test was conducted according to the method described by Huddleson. A 24-hour live culture of *Brucella abortus*, strain 19, was used as the antigen. A suspension of the live organisms was mixed with the citrated blood and incubated 30 minutes at 37°C. After incubation smears were made and stained with Hasting's stain. Twenty-five polymorphonuclear leucocytes were examined and classified as to the degree of phagocytosis. Leucocytes showing phagocytosis of 40 or more brucella were classed as marked; those engulfing 20 to 40, moderate; 5 to 20 organisms, slight; and those 0 to 5 were negative. The rapid plate agglutination test was used, the antigen being supplied by the laboratories of the U. S. Bureau of Animal Industry.

Reference to the table shows the number of students whose tests fall in the various combinations of reactions.

Twenty-three of the 55 samples showed no phagocytic or agglutination reaction. Two samples showed negligible phagocytic ability and negative agglutination tests. These 25 individuals are considered as negative. The remaining 30 students exhibited varying degrees of reaction, which were undoubtedly the result of definite infection with one of the species of *Brucella*. The four students represented in lines three and four show less reaction than those below; possibly the reactions are receding since these gave a history of probable contact two or more years ago. The other 26 students all show evidence of more recent infection but are otherwise difficult to interpret. Several students gave history of definite symptoms of brucellosis while others could not recall any symptoms they thought were attributable to brucella infection. A majority of those showing positive reactions had worked with a practicing veterinarian during the previous year or had attended cases of brucella infection in the clinic during the school year. Either experience may have resulted in exposure to brucella infection. Three students said they had definite contact with *Brucella abortus*, strain 19, through vaccination accidents. All three showed a marked opsonocytophagic reaction and a positive agglutination test.

It may be pointed out that there were no positive agglutination reactions among those individuals showing negative opsonocytophagic reactions. Conversely, eight students who showed definite

Summary of Brucellosis Reactions of 55 Students

No. tested	Opsonocytophagic test			Neg.	Agglutination test			
	Marked	Moderate	Slight		1-25	1-50	1-1000	1-200
23 ...	0	0	0	25	-	-	-	-
2 ...	0	0	2	23	-	-	-	-
3 ...	0	1	7	17	-	-	-	-
1 ...	1	6	10	8	-	-	-	-
2 ...	16	8	1	0	+	-	-	-
1 ...	18	4	2	1	+	+	+	+
1 ...	20	2	3	0	+	+	+	+
1 ...	20	5	0	0	+	-	-	-
1 ...	21	4	0	0	-	-	-	-
1 ...	21	4	0	0	+	+	-	-
1 ...	22	3	0	0	+	+	+	-
1 ...	23	1	1	0	+	+	+	-
1 ...	23	2	0	0	-	-	-	-
1 ...	23	2	0	0	+	+	-	-
3 ...	24	1	0	0	+	+	+	-
2 ...	25	0	0	0	-	-	-	-
3 ...	25	0	0	0	+	-	-	-
4 ...	25	0	0	0	+	+	+	-
3 ...	25	0	0	0	+	+	+	+

55 Total tested

opsonocytophagic reactions were negative to the agglutination test. This is not surprising since the agglutination titer is the last to appear after infection begins and the first to disappear following recovery. Furthermore, some individuals fail to show a positive agglutination titer, or only a transient one following known brucella infection.

In summary, 55 percent of the graduating class showed evidence of brucella infection. Some of these had been clinical cases, others not. It appears that the opsonocytophagic test is more sensitive than the agglutination reaction. Exact interpretation of the susceptibility or resistance of each student to brucellosis is not possible, however, these tests should be valuable as references in case of possible future illness.

Acknowledgement

The cooperation of members of the College Hospital Staff in drawing blood samples is gratefully acknowledged.

Reference

Huddleson, I. F. 1943. Brucellosis in man and animals. pp. 255-277. The Commonwealth Fund, New York.

Adrenalin

H. G. Lamont reports in a 1947 issue of *Veterinary Record* that many cases of cattle bloat respond satisfactorily to adrenalin injections, and recommends that it be used routinely along with other treatments. Observations on sensitization experiments revealed that frequently anaphylaxis produced pronounced cases of bloat.

There are approximately 80 diseases of animals transmissible to man of which many are significant among the causes of disease in the United States. Of these rabies and brucellosis are the most outstanding at this time.

In 1947 England's House of Lords, in its authority as the highest court of the land, denied British anti-vivisection societies a tax-exempt status and held that they are "detrimental to the public interests."