

# 九州地区の犬のBrucella canisに対する凝集素の保有状況 調査

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**BRIEF NOTE**

**Serological Survey on Agglutinins to *Brucella canis*  
in Dogs of the Kyushu District**

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In Japan, canine brucellosis due to *Brucella canis* was first recognized in 1972 in a beagle breeding colony. It was originated from imported dogs [12]. Since 1973, its epizootics have been detected in the dog populations in the Tokyo metropolitan area [2, 6, 11], Hokkaido district [1, 5, 10], Tohoku district [3, 7, 8], and Gifu and Shiga prefectures [9]. A survey was made over a period from March, 1977, to October, 1978, to ascertain the prevalence of agglutinins to *Brucella canis* in the dogs of the Kyushu district.

A total of 1,739 dogs, or 1,179 dogs from animal shelters and 560 dogs hospitalized, were obtained from 12 sources distributed in 8 prefectures in the Kyushu district, as presented in Table 1. Of the dogs from animal shelters, 1,017 had been kept in the Kyushu, Kagoshima and Kurume Universities and the Miyazaki Medical College for experimental use, remaining 162 blood samples were obtained from dogs in the Animal Shelter, Prefecture of Okinawa, by public health veterinarians.

Most of the dogs examined were adult mongrels of unknown age, and divided almost equally into males and females. Blood samples were collected from the cephalic vein and sera were stored at  $-20^{\circ}\text{C}$

until testing. The agglutination test was made by the tube method with antigen (prepared from strain QE-13) supplied by Dr. A. Ghoda, of the Kitasato Institute. To 0.5 ml of serial twofold dilutions of test serum starting at 1:10 was added an equal volume of the antigen suspension. The mixture was incubated at 50 to 52°C for 48 hr. The agglutinin titer was expressed by a final serum dilution giving clear agglutination. Titers of 1:640 or higher were considered positive.

The results obtained are summarized in Table 1. Twenty-seven of the 1,739 cases (1.6%) were considered to have been infected due to the detection of serum agglutinin. Of them, 23 were derived from animal shelters and 4 hospitalized dogs, and positive rates were 2.0 and 0.7%, respectively. No significant difference was seen in positivity rates between the dogs from animal shelters and those hospitalized.

The results of the present survey showing a positive rate of 1.6% were similar to those of surveys made in some other areas of Japan [5, 6, 9, 10], except that conducted in the Sanyo district [4].

Comparison was made on positive rate between Fukuoka Prefecture and the other prefectures as a whole. In Fukuoka Prefecture, 18 of 637 cases (2.8%) were positive,

Table 1. Serum agglutinin titer against *Brucella canis*

Category and prefecture	No. of sera examined	Agglutinin titer							Positive rate( %)
		<20	20	40	80	160	320	640≤	
Dogs from animal shelters									
Fukuoka	431	183	89	69	51	13	11	15	3.5
Saga	60	26	12	12	5	2	2	1	1.7
Nagasaki	130	63	37	21	6	2	0	1	0.8
Kumamoto	138	53	40	26	9	4	4	2	1.4
Miyazaki	88	51	20	9	1	3	2	2	2.3
Kagoshima	170	95	51	17	7	0	0	0	0.0
Okinawa	162	92	39	21	6	1	1	2	1.2
Total	1,179	563	288	175	85	25	20	23	2.0
Dogs hospitalized									
Fukuoka	206	115	43	26	12	6	1	3	1.5
Saga	58	28	19	9	2	0	0	0	0.0
Nagasaki	111	74	18	11	5	2	1	0	0.0
Oita	100	55	19	12	9	3	1	1	1.0
Miyazaki	85	46	20	10	4	4	1	0	0.0
Total	560	318	119	68	32	15	4	4	0.7
Grand total	1,739	881	407	243	117	40	24	27	1.6

whereas in the others, 9 of 1,102 cases (0.8%) were positive. The difference in positive rate was statistically significant ( $P < 0.05$ ) between Fukuoka Prefecture and the others. On the other hand, all the 170 dogs collected from Kagoshima Prefecture had agglutinin of low titer for unknown reason.

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## 要 約

九州地区の犬の *Brucella canis* に対する凝集素の保有状況調査 (短報): 和田俊雄・半田純雄・毛利資郎 (九州大学医学部附属動物実験施設)——九州各県の合計 1739 頭の抑留犬および飼犬について、*Brucella canis* に対する凝集素の保有状況を調査した。陽性率は 1.6% (抑留犬 2.0%, 飼犬 0.7%) であった。福岡県の陽性率 (2.8%) はそれ以外の県 (0.8%) に比べて有意に高かった ( $p < 0.05$ )。それとは逆に、鹿児島県では全例が凝集素価 80 倍以下の低い水準にとどまっていた。