STUDY OF JAPANESE ENCEPHALITIS VIRUS IN ANIMALS OF KOREA

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There are only a few reports on natural history of encephalitis in Korea, but the ecology of encephalitis in Japan and that in Korea are presumed fundamentally similar because of their geographical location.

100 per cent of large domestic animal such as horse, cow and pig have neutralizing antibodies but it couldn't be detected in chicken though we tried in only small numbers.

The animals used in this experiment were too old to identify the history of the virus infection, it can be easily proved that they were bitten by infected mosquitoes.

Table 1. Occurrence of Hemagglutination-Inhibition Antibodies against Japanese Encephalitis Virus among Domestic Animals and Chickens

	No. tested	No. positive* (% positive)
Horse	54	47 (87%)
Cattle	92	82 (89%)
Hog	37	33 (90%)
Dog	48	8 (17%)
Chicken	136	1

* Positive=Inhibition of hemagglutination by a dilution of serum greater than or equal to, 1:10.

Table 2. Incidence of Neutralizing Antibodies for Japanese Encephalitis Virus Among Domestic Animals in Korea

Domestic Animal					
Species	Age (years)		Summers in area	No. tested	Per cent positive
	Range	Mean			
Horses	7-12	9	1	4	100
	6- 8	7	2	5	100 } 100
Cows	6- 9	7	1	16	94
	6	6	2	1	100 } 94
Pigs	1- 2	2	1	5	100
	2- 3	2	2 or more	5	100 } 100
Chickens	0.8-2	1	1	12	0

HI antibody to the virus was proven in 87 % of horse, in 89 % of cattle and in 90 % of pigs, The average age of horse and cattle was from 4 years to 7 years, and that of pigs varied from 6 months to 14 months.

There were reports in Korea since 1952 that the virus was isolated several times from naturally abortive pigs. When we surveyed on the multi-occurent region of encephalitis, we usually found that pigs were feeded in whole area of the village. It means the role of pig is amplifier in Korea as in Japan.

STUDIES ON JAPANESE ENCEPHALITIS BY SURVEILLANCE CARDS

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The author reviewed the epidemiological and clinical characteristics of Japanese encephalitis in Japan, based on statistical data acquired by card surveillance program established in nation-wide scale by Public Health Bureau of the Japanese Ministry of Health and Welfare since 1965.

Analysis of individual cards showed that, of the 1,344 cases (706 deaths) reported in 1965, 696 had been virologically diagnosed and 148 who died in early stage of their illness were regarded clinically to be Japanese encephalitis (Table 1).

Among 3,276 valid cards collected in 1966, 2,017 were made diagnosis of Japanese encephalitis by positive virus isolation or rising titers of CF, HI or FA, and in autopsy or clinical aspects to the early death cases (Table 2).

As to the prognosis of the disease, of 811 cases tested in 1965, 48.9 % were completely healed without any sequela and 19.2 % were incomplete healing with various kinds of sequelae, and fatality rate was 31.8 %, whereas of the 1,995

Table 1. Result from Surveillance Cards of Each Reported Case
in Seven Districts of Japan in 1965

District	Reported cases		Valid cards	Confirmed cases	Suspected* death	Equivocal cases	Excluded cases	Unknown cases
	Cases	Death						
Kyushu	456	195	498	230	48	20	24	176
Shikoku	68	56	108	39	11	5	2	51
Chugogu	172	98	242	87	32	13	12	98
Kinki	386	239	382	199	36	21	16	110
Chubu	129	52	150	63	15	3	13	56
Kanto	127	59	190	74	4	8	39	65
Tohoku	6	7	22	4	2	0	3	13
Total	1344	706	1592	696	148	70	109	569

* Death following the typical encephalitis symptoms but not laboratory-confirmed.