2) The activity of the parasites was completely neutralized only by a combination of both the specific antibody and unheated human serum which was applicable to the dye test as an accessory factor.

3) The effect of unheated human serum was destroyed by heating at 56°C for 30 minutes.

4) In unheated serum from cows, horses, sheep, rabbits, pigs, guinea pigs, rats, dogs, fowl and humans, there were no substances which were effective in combination with the specific antibody, which were not applicable to the dye test as an accessory factor.

5) Toxoplasms were inactivated by fowl or pig serum with or without immune rabbit serum.

6) The inactivated immune rabbit serum appeared to contain some factors which inhibit the neutralizing action of specific antibody for the parasites.

STUDIES ON THE METHOD FOR BIOASSAY OF ANTIBACTERIAL ACTIVITY OF KANAMYCIN

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(Summary of Master's thesis written under direction of Dr. S. MIURA)

Since we had obtained irregular results from the sensitivity test for bacteria of animal origin against Kanamycin (KM) by the usual tube dilution technique, it was thought necessary to search for factors influencing the antibiotic activity of KM. The results of the present study are summarized as follows:

1) A 24 hours seed culture of *Escherichia coli* gave the most constant result in testing antibacterial activity of KM in a liquid medium. On the contrary, cultures over 40 hours gave irregular results.

2) Bacterial doses for inoculum had an effect on the test. When the dose was increased in concentration by 1 : 100,000, the antibacterial activity of KM against *Staphylococcus aureus* or *E. coli* seemed to decrease about 1/32.

3) The antibacterial activity against *Sta. aureus* or *E. coli* evidently decreased by the addition of 40% animal sera to the medium, although some differences in serum activity were observed among animal species.

SÖRENSEN's phosphate buffer solution of over 0.02 M showed an inhibitory influence on the antibacterial activity to the test organisms except for *Proteus vulgaris*.

4) KM had a complete bactericidal action in high concentration. However, the adjustment period of the organisms growth phase was only prolonged in the media containing lower concentrations of KM. Also when the KM concentration was at a moderate level, a part of the inoculated organisms survived and multiplied later. Therefore, it is impossible to know correctly the antibacterial power of KM on the basis of the turbidity of the culture media for the sensitivity test.

EPIZOOTIOLOGICAL STUDY OF MYCOPLASMOSIS OF CHICKENS (CRD) IN HOKKAIDO

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A chronic respiratory disease of chickens (CRD) was observed in several poultry farms in the last two years in the middle district of Hokkaido. The present author carried out the bacteriological, virological and serological studies on these flocks. The results of the studies are summarized as follows:

1) Numerous strains of *Mycoplasma* (PPLO) were isolated from diseased chickens. About one half of the strains tested were considered to belong to S-6 type of avian PPLO on the basis of their serological and biological characteristics.

2) It is believed that the testing of hemolytic activity on PPLO agar using erythrocytes from chickens, rabbits, guinea pigs or human-beings is an effective supplementary method for typing avian PPLO.

3) From the results of serological tests with *Mycoplasma gallisepticum* in the last several years, it is assumed that *M. gallisepticum* infection might be introduced into a poultry farm (U) in 1960.

4) As a result of complication of fowl pox or *Escherichia coli* infection in the respiratory tract, or of coccidiosis, mycoplasmosis might become severe at U farm.

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