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Author(s)	MATSUBARA, Syuzo
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but age must be taken into consideration for experimental larval echinococcosis multilocularis in mice.

STUDIES ON HEAT LABILE ANTIGENS OF AVIAN VIBRIO

Syuzo MATSUBARA

*Department of Epizootiology
Faculty of Veterinary Medicine
Hokkaido University, Sapporo, Japan*

One hundred and sixty-four cultures of avian vibrio were isolated from 506 fecal samples (69 flocks) of apparently healthy chickens in Hokkaido, using millipore filters. Biochemical properties of these isolates were closely similar to those of vibrios obtained from the gall-bladders or livers of chickens (GL-strains) and *Vibrio fetus* of bovine origin. Using both oblique transmitted light and crystal violet staining, smooth type colonies (S type) were selected on brucella agar plate. Only 14 (15%) out of 96 isolates from feces and 5 out of 25 GL-strains yielded S type. Antigens were prepared from brucella broth cultures of 6 fecal, 5 GL and 2 *V. fetus* strains of the S type on a shaker at 37°C for 24 hours.

The following results were obtained by cross agglutination and agglutinin-absorption test in the above-mentioned 11 avian vibrio and 2 *V. fetus* strains.

1) The agglutinability and agglutinin-binding capacity of the surface antigens, such as H and possible K antigens, were inactivated by boiling in a reflux condenser for 2 hours, or autoclaving at 120°C for 2 hours.

2) Fresh or formalized whole cell antigens showed inagglutinability to homologous O-antiserum, whereas another antigens, such as those heated, and treated with alcohol or hydrochloric acid, exhibited various degrees of agglutination titer. It seemed likely that these facts suggested the existence of K antigen in avian vibrio.

3) As a result of cross agglutination between whole cell antigens and O-absorbed or anti-whole-cell serum, the distribution of 8 components of heat labile surface antigens was confirmed in avian vibrio. Thus, the strains tested had the following antigenic factors: a, d (2 strains), a, b, d (1), a, b (2), a, c (2), d, g (1), d, h (1), e (1) and f (1).

4) The cross O agglutination test exhibited the existence of common O-antigen in avian vibrio.

5) Antigenic relationship was not found between these avian strains and two serological types of *V. fetus* used.