BRIEF NOTE

ISOLATION OF YERSINIA ENTEROCOLITICA
FROM MONKEYS AND DEERS

Koichi Otsuki, Misao Tsubokura and Keizaburo Itagaki
Department of Veterinary Microbiology, Faculty of Agriculture,
Tottori University, Tottori

Katsuya Hirai
Department of Veterinary Microbiology, Faculty of Agriculture,
Gifu University, Kagamihara, Gifu

Hideo Nigi
Department of Laboratory Primate Medicine, Japan Monkey Center, Inuyama, Aichi

(Received for Publication, August, 29, 1973)

It is only recently that Yersinia enterocolitica has become of interest as a cause of Zoonoses. Investigations of this organism have been performed chiefly by European workers, and it has been reported as the cause of a new disease complex in man [1, 3, 6]. This organism has also been isolated from various animal sources since Dickinson and Mocquot [2] isolated it from swine, while a detailed investigation has not been performed in relation with human infections.

Recently, in Japan, reports were made on the isolation of Y. enterocolitica from man [8], community outbreaks of this organism infection [9, Asakawa et al., J. Hyg. Camb., in press] and isolation from swine [7].

The authors isolated Y. enterocolitica from the feces of monkeys which were diagnosed as Y. pseudotuberculosis infections. Results of the isolation of Y. pseudotuberculosis will appear in another paper. This paper deals with the isolation of Y. enterocolitica from monkeys and from deers which were kept together with monkeys.

The monkeys (Macaca patas) examined were bred at the monkey center in Aichi Prefecture. Twelve adults (one male and eleven females) and eleven infant monkeys and three deers were kept together in a breeding farm of about 4,000 m². These animals were fed mainly sweet potatoes, apples, and cubed diet for monkeys.

Fecal specimens were collected from each site as many as possible, because in the field-condition it was impossible to collect the feces dropped by an individual animal. Therefore, it may happen that the some specimens were derived from the same animal.

About 1 g of feces was suspended in 10 ml of M/15 phosphate buffer solution (pH 7.6) and kept at 5°C for a month for an enrichment culture, then subcultured aerobically at 25°C for 48 hours on MacConkey's and SS agar plates.

First experiment was performed on January 15, 1973. Out of 154 monkeys and 5 deers specimens, 33 and 2 strains of Y. enterocolitica were isolated, respectively. Serological groups of the isolates derived from monkeys were groups 0-5, 0-6, 0-12 and 0-14. The
majority of the isolates (30 strains) belonged to group 0-12, and other groups were only one strain each. Two strains, 0-5 and 0-12 were isolated from the same specimen. Two strains isolated from deers grouped into 0-12.

Agglutinin titers were tested on the sera obtained from 12 adult monkeys. Two cases exhibited titers of 1:10 while the remainder was not raised significantly.

Second experiment was performed on May 1, 1973. Out of 129 monkeys specimens, only 5 strains of \textit{Y. enterocolitica} were isolated from 4 specimens while no organism was detected from 10 deers specimens. One strain belonged to group 0-4, one to group 0-6 and three to 0-12. Two strains, 0-5 and 0-12 were isolated from the same specimen.

Although the number of monkeys with organism could not be confirmed, it seemed that the majority of the monkeys harbored this organism because organisms were detected with high frequency from the fecal specimens. But the carrier state should have been temporary.

Monkey infections with \textit{Y. enterocolitica} were reported by Mollaret et al. \cite{5} and McClure et al. \cite{4}. Isolation of \textit{Y. enterocolitica} from deers was made in North America \cite{3}. In these strains derived from monkeys and deers, serological groups were 0-3 and 0-5 and they were also dominating groups of the isolated strains from human being.

These findings are of interest in study of the ecology of \textit{Y. enterocolitica}.

REFERENCES