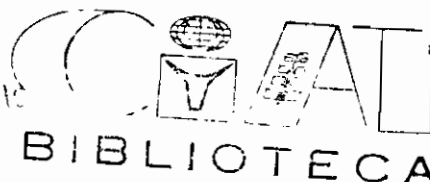




Short Communication

~~TRANSMISSIBLE GASTROENTERITIS OF SWINE~~
IN COLOMBIA - AN IMPORTED DISEASE

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Introduction

This important viral disease of swine first described by Doyle and Hutchings (1946) was not known to exist in Colombia before an outbreak occurred in the Cauca Valley involving six commercial piggeries in January 1973.

History

Eighty pigs were imported from six farms in Ohio and Indiana (U.S.A.) to Cali, Colombia. They were quarantined for 16 days prior to embarkation. There was no quarantine at the port of entry in Colombia and animals were distributed to nine farms the day after arrival.

Seven days later a report was received of an epidemic of diarrhoea on one piggery, closely followed by reports the following day of a similar condition on two others. By the fifth day of the initial report the mortality rate in sucklings and weaned pigs was approaching 100 per cent and three more piggeries had been affected making the situation acute.

Clinical signs were characterized by profuse yellowish diarrhoea, vomiting, weight loss, dehydration and death in pigs less than 3 months of age. Adult pigs presented similar but less severe symptoms, with depression, agalactia in lactating sows and weight loss as characteristic features.

Material and Methods

Ten animals were necropsied. Tissues for histological examination were fixed in 10 per cent neutral buffered formalin, processed by standard procedures, and stained with haematoxylin and eosin. Small pieces of stomach and small and large intestine were placed in small glass vials (5 ml. each) containing Hank's solution for viral isolation. Sick pigs were bled for antibody determination. Liver, kidney, spleen, stomach and intestinal contents were taken for toxicological studies.

Results

Carcasses were dehydrated. Main lesions at necropsy were confined to the stomach, small intestine and kidneys. They consisted of severe focal necrosis of the gastric mucosa, dilatation of the small intestine which contained a copious yellowish-dark fluid and hyperaemia of the kidneys. The wall of the jejunum was almost translucent in most cases examined.

Lesions in the majority of stomachs examined were confined mainly to the fundic region. They were characterized by a severe necrosis of the mucosa, involving the epithelium and lamina propria with complete destruction of

fundic glands. Lesions in the small intestine were characterized by marked atrophy of the villi.

The crypt-villus ratio was nearly one to one, and the columnar epithelium had been replaced by flattened cuboidal cells. Islands of denuded villi were swollen by congestion and oedema. The epithelial cells of the proximal convoluted tubules of the kidneys were swollen and the distal tubules had proteinaceous casts and crystalloid deposits.

After the microscopic examination of the tissues, a diagnosis of transmissible gastroenteritis (TGE) was made, based on symptomatology, epidemiology, and characteristic histologic findings. The possibility of an intoxication was discarded.

Tissues and sera were sent to the Instituto Colombiano Agropecuario (I.C.A.) Veterinary Research Laboratory (L.I.M.V.) in Bogotá and to the U.S.D.A. Animal Disease Laboratory - Plum Island. The diagnosis was confirmed by virus isolation in Bogotá and serologically by Plum Island.

The outbreak occurred in six out of nine piggeries that had received imported pigs two weeks before. Taking advantage of fortuitous sera in the CIAT Animal Health serum bank, samples stored were studied comparing sera taken before and after the outbreak*. No antibodies for TGE virus were detected in sera that had

* Sera were examined by the Veterinary Research Laboratory (I.C.A.)

been taken before the outbreak in all six affected piggeries. Post-outbreak sera were TGE positive, giving circumstantial evidence that the disease had been introduced by the imported animals.

Discussion

Although the impact of the disease on affected animals was devastating, the majority of sucklings and weaners (1.141) being lost in affected piggeries, no evidence exists at present that the disease spread to other localities in Colombia. Haelterman (1963) is of the opinion that in rare occasions the disease appears again in the same piggery the following year, with the exception of those that practice continuous farrowing which is actually of common practice in the area where the outbreaks occurred. Moore and Redmond (1971) and McNutt (1953) suggest the possibility of outbreaks of the disease occurring when new animals from enzootic zones are brought in contact with susceptible animals, indicating the possibility of carriers of the virus. Although this is quite feasible, recovered pigs from the outbreak in this country have been in contact in repeated occasions with swine from non endemic areas with no signs of TGE appearing in susceptible animals. The possibility exists that carrier pigs eliminate TGE virus only when subject to stressful conditions like long journeys, enteric diseases of different etiology, and other causes. Few of the imported pigs that were taken to the affected piggeries developed clinical signs of TGE during the outbreak. It is possible that some of these pigs had been in contact with the disease before shipment to Colombia.

Ecological factors may be significant in the epidemiology of the disease in tropical environments. Studies should be made on the epizootiology of TGE in non temperate zones to devise control measures accordingly. It is possible that the introduced disease is of no subsequent importance in the tropics, after an initial, probably devastating, episode.

Acknowledgment

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