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Eperythrozoonosis in 4-week-old Pigs

by

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Eperythrozoon suis is considered to be the major cause of icteroanemia in swine. Knowledge concerning the mode of transmission of eperythrozoonosis is incomplete. Because most cases of eperythrozoonosis occur during the warm months of the year, it has been assumed that dissemination of the blood parasite could be most easily accomplished by bloodsucking arthropod vectors.

The following case report of eperythrozoonosis is of special interest because it involves pigs, three to four weeks of age, that were farrowed when flies and mosquitoes were not present in significant numbers in central Iowa. This case highlights the possibility of intrauterine transmission E. suis from the dam to her fetuses, a possibility already suggested by Berrier and Gouge (1) and by practitioners reporting to us suspected outbreaks in suckling pigs.

HISTORY

A central Iowa swine farm, the basic breeding stock of which had been procured from surgically derived pigs for the past four years, experienced icteroanemia in three to four-week-old pigs farrowed in March, 1965. The disease was recognized when two pigs were found dead with the following lesions: icterus, yellow liver, soft enlarged spleen, and thin watery blood.

On examination of the herd, approximately 15% of the pigs from 32 litters were found to be clinically affected. The signs were weakness, paleness, icterus, and dark colored feces. The sows appeared normal and no new animals had been added to the herd. Iron injections or other veterinary procedures had not been performed. The herd was louse-free and insects were not present because of cold weather.

LABORATORY FINDINGS

Lesions in other affected pigs resembled those seen in the two pigs previously necropsied: flabby hearts, icterus, enlarged pulpy spleens and dark bile-stained intestinal contents. Hematologic findings were: hemoglobin 4.5 Gm.%, packed cell volume 18%, anisocytosis, and icterus. Blood smears stained with Giemsa or acidine orange had intra-erythrocytic parasites indistinguishable from E. suis. Ring forms predominated, with coccoid and bacillary forms also present. As many as four ring forms occurred in an erythrocyte. Routine bacteriologic examinations of tissues from icteric pigs were negative.

TREATMENT

The pigs were treated orally with iron and allowed to eat soil gathered from an

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AVMA Convention

David Olson and Loren Appell, seniors in the College of Veterinary Medicine, attended the 102nd annual A.V.M.A. convention held in Portland, Oregon, this summer as the Junior A.V.M.A. delegates from Iowa State.

On Sunday, July 11th, they attended the Get-Acquainted Breakfast in the Portland Hilton along with Iowa State's Women's Auxiliary delegates, Mrs. David Olson and Mrs. James Roush. All of Sunday was spent in student chapter meetings, some separate and some in conjunction with the Women's Auxiliary delegates.

Monday the delegates attended meetings held at the Memorial Coliseum and attended the Student Chapter and Auxiliary Luncheon.

Tuesday morning the Plenary Session was held in the Portland Hilton, highlighted by keynote speaker, Governor Mark Hatfield of Oregon. The two delegates spent the remainder of the convention attending group meetings and touring the area where swine had not been raised. In a matter of a few weeks the clinical signs of eperythrozoonosis had disappeared; however, the growth rate of the pigs was never completely satisfactory. Market weight was delayed approximately two weeks when compared to unaffected swine from the same farm.

DISCUSSION

The interesting and significant feature in this case is the possibility that in utero transmission of the organism had occurred. If in utero transmission does occur, then a new set of questions logically can be asked. What role does \textit{E. suis} play in what is commonly called nutritional anemia? What is the significance of \textit{E. suis} in postnatal umbilical hemorrhage? Will the severity of the common bacterial and viral agents associated with baby pig diseases be enhanced by \textit{E. suis}? These and other related questions are awaiting the researcher who is interested in working with a disease that until now has received little attention and that may well be of great economic importance.

BIBLIOGRAPHY