The Retina

Hog Cholera/African Swine Fever

Inflammatory changes occur in the retina and uvea in hog cholera if the animal survives the illness 7 days or longer. Congestion, edema, and sometimes hemorrhage occur in the iris and ciliary body, which structures are also infiltrated by mononuclear cells. Choroidal infiltrations are focal and mild. There is acute retinitis, but neural elements are only secondarily affected. Retinal gliosis occurs in proximity to perivascular cuffs but also with a random distribution. Optic neuritis with diffuse glial proliferation may be prominent. The intraocular lesions, like those in other tissues can be attributed largely to the affinity of the virus for undifferentiated mesoderm and vascular endothelium.

Retinitis characterized by foci of gliosis is seen occasionally in swine with encephalomyelitis of Teschen type. Blindness with keratitis and phthisis bulbi are reported in pigs with African swine fever, but the histologic changes have not been described.

A. Optic neuritis, papillitis and retinitis in a case of hog cholera (Swine fever). The structure are heavily infiltrated by glial cells.
B. Retinitis in another case of hog cholera. The perivascular cuffing with lymphocytes extends into a contiguous glial nodule. Inset: Endothelial swelling in a vessel from another field of this retina.

Suspected Viral Infections

Lesions are sometimes encountered which are suspected of being viral in origin, by virtue of their resemblance to others which are. We depict examples of two such cases, in which we have been unable to establish the cause of the alterations.

C. Section of retina from 2 1/2-year-old J Basset hound presented because of blindness. There is diffuse retinal degeneration; the chief remaining cells being from the outer nuclear layer. Proliferating pigment epithelium is invading the remaining retina. Inset: An eosinophilic intranuclear inclusion body is present in a glial cell in a remnant of an inner layer of the retina.
D. Section from retina of a horse. There are degenerative changes, characterized by pyknosis and vacuolation,
in the inner layer. One of the nuclei (arrow) has an eosinophilic inclusion body in it. [Section courtesy of Dr. T. W. Dukes.]


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