

EQUINE ENCEPHALOMYELITIS

ROBERT GRAHAM AND H. R. HESTER

University of Illinois, Urbana, Illinois

ABSTRACT

A widespread disease of horses and mules occurred in the San Joaquin Valley of California in 1930. The disease reappeared in 1931. Clinically, the malady presented a syndrome resembling many previously unidentified epizootics of horses recorded in the veterinary literature during the past 70 years. Clinicians commonly referred to these outbreaks as cerebrospinal meningitis and forage poisoning as well as Kansas horse plague. However, the etiologic agent

was not identified until Meyer, Haring, and Howitt¹ of California recovered a filter-passing virus from the brain tissue of naturally affected horses in 1931. The California investigators also studied the pathology of the disease and suggested the name encephalomyelitis, in keeping with the inflammatory changes found in the brain and spinal cord.

In 1931 a similar outbreak occurred among the horses in Nevada where Records and Vawter² recovered a filter-passing

virus resembling the California strain. Two years later (1933) a virus equine encephalomyelitis was studied along the eastern seacoast by TenBroeck and Merrill³ and by Giltner and Shahan.⁴ Immunologically, the equine viruses encountered in the western and eastern seacoast states proved distinct entities and the geographical designation of the two diseases as eastern and western virus types of encephalomyelitis was adopted through common usage.

Western Type Virus in Illinois.—Two hundred and fifteen practicing veterinarians reported more than 6,000 cases of equine encephalomyelitis in 85 Illinois counties in 1938. In two counties clinical cases were observed during June and similar observations were reported in 19 counties during July. The disease spread rapidly and appeared in 51 counties during August and September. The mortality reported in 6,033 affected horses in Illinois was 25.44 per cent of 1,535 animals, representing a death loss of approximately \$150,000. Cases were reported on 4,802 premises with an average of one plus cases per infected herd. The greatest number of horses affected on a single farm was six. More than 70,000 horses were vaccinated, with a mortality of less than two-tenths of one per cent. In some Illinois localities during the 1938 outbreak 28 per cent of the horse population was immunized. The Division of Animal Pathology and Hygiene, University of Illinois, in 1938 isolated and identified for the first time the western type virus in naturally affected horses from outbreaks in five different counties.

Summary.—An encephalomyelitis of horses associated with a filterable virus was first recognized in the United States (California) in 1931. Two years later a similar syndrome associated with an immunologically different virus occurred among horses on the eastern coast. These two virus types of the disease have now been reported in 39 states, and the incidence peak reached in 1938 was 184,662 cases in the 39 states.

The eastern type of the virus has not extended from the eastern seaboard states, though the western type of the virus has extended from California to the middle western and southwestern states. During the summer months of 1938 the

western type virus appeared in 85 counties in Illinois with approximately 6,000 clinical cases. A mortality of approximately 25 per cent was noted. The economic aspects of this disease in agriculture are recognized as a serious menace to the horse industry, and in the light of recent knowledge, equine encephalomyelitis has also become an important public health problem, as well as a disease of fowls.

An effective formalized chick embryo vaccine has been perfected for the immunization of horses. Employed as a prophylactic treatment by the veterinarian in 70,000 Illinois horses during the past year (1938), less than 0.2 per cent mortality occurred. On the basis of one year's results in the control of this disease in horses and mules, the outlook for the suppression of the disease by sanitary measures and immunization seems promising.

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