LEUKOMYELODEGENERATION IN NEWBORN HOLSTEIN CALVES

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Six Holstein calves (Case Nos. 1-6; 3-24 days of age; revealing normal chromosome patterns), of which five were affected with malformations in outer forms and/or in the inner organs, were neuro-histopathologically examined. Increase of pellucid cerebrospinal fluid and no anomaly of the central nervous system were noted in all of the calves at autopsy.

Mild degeneration was observed in the marginal white substance of the spinal cord (leukomyelodegeneration) and in the latero-marginal white substance of the posterior brain stem in all of the calves; the leukomyelodegeneration was more severe in the dorsal funiculus.

Mild mesothelial proliferation was frequently seen in the meninges (dura mater) of the spinal cords of all of the calves and of the brains of the four calves (Case Nos. 2-5). Infrequently, minute eosinophilic cytoplasmic inclusion bodies in the mesothelia of the spinal cords of the three calves (Case Nos. 2, 3 & 6) and of the brains of the four (Case Nos. 2-5) were observed. The degeneration of the white substance and the meningeal events did not seem to be independent of each other.

Inclusion bodies like those seen in the central nervous system were frequently noted in the mucosal epithelia of the large intestines in the five calves examined (Case Nos. 1-5).

Histopathological examinations revealed that the hind leg muscles of the malformation (hypoplasia of the crura and femora) and the lumbar back muscles in Case No. 1 were affected with neurogenic-angiogenic atrophy.