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PATHO-MORPHOLOGICAL OBSERVATIONS ON MUSCLES AND NERVES
OF PELVIC LIMBS IN COWS WITH SPASTIC SYNDROME

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Myo- and neuro-pathological observations were done on the muscles of the upper pelvic limbs, especially the biceps femoris, in cows affected with spastic syndrome.

There existed pathological changes in the muscles of the upper pelvic limbs. The changes seen in the biceps femoris developed rather more severely than those in the other muscles of the pelvic limbs. The microscopical changes common to the biceps femoris of all the animals were as follows: (a) Changes in the muscular parenchyma, atrophy of muscle fibers of types I and II, group atrophy of muscle fibers and grouping of thin muscle fibers, which were prone to affection in single fasciculi (2 animals), hyalinosis of muscle fibers; (b) Changes in the muscular interstitium, such as edema and fibrosis of the epi-, peri- and endo-mysium, cartilaginous metaplasia in the fibrotic tissues (5 animals), edematous loosening and swelling of the walls of the small and minute blood vessels, fresh degeneration of nerve fiber axons consisting of swelling, vesiculation, etc., old changes in the nerve fiber bundles, consisting of edema, peri- and endo-neurial fibrosis and edema, fibrosis of the walls of the minute blood vessels, focal loss of nerve fibers, and fibrosis of the foci. The fresh nerve fiber degeneration and the vascular alterations were considered to be significant pathological changes in the biceps femoris. It was inferred that these changes may have been strongly involved in minor spastic seizures in the muscles.

The author concluded that spastic seizures in bovine spastic syndrome are probably caused by organic disturbances in the muscles, and tentatively termed bovine spastic syndrome "bovine biceps femoris-neuropathy".