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Histological and Ultrastructural Identification of Telocytes in Canine Uterine Tissue

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Abstract

Telocytes, characterized by slender cell bodies and elongated cytoplasmic processes known as telopodes, are distinct interstitial cells identified in various mammalian organs, including the heart, lung, fallopian tube, and kidney. This study investigated the presence, morphology and ultrastructure of telocytes in the uterine tissue of the dog. Samples from the uterine horn of adult Spitz dogs were collected and processed for histological, histochemical, and transmission electron microscopic examinations. Under light microscopy, telocytes were observed as elongated cells possessing a slender nucleus and numerous thin cytoplasmic processes extending from the cell body. They were in proximity to secretory units of uterine glands, blood vessels, collagen bundles of the connective tissue, and, smooth muscle cells throughout all layers of the uterine wall. The complete morphology of telocytes and telopodes, including their close associations with glandular, smooth muscle, and endothelial cells, as well as collagen fibers, was clearly visualized by transmission electron microscopy. Collectively, the findings of this study provide the first evidence of telocyte presence in the canine uterus and describe their morphology.

Key words: Telocyte, Uterus, Dog, Histology, Cell structure

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