

Cellular composition of the canine *fascia lata* at the ultrastructural level

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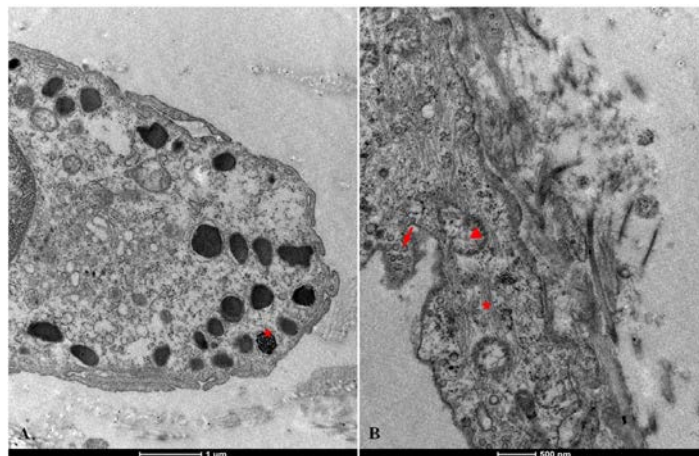
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BACKGROUND The canine *fascia lata* is a deep fascia playing important role in a motility of a hind limb. In human medicine it is widely used both as autologous and allogeneous graft material. A better understanding of the ultrastructure canine fascia may contribute to more extensive and efficient use of this tissue also in veterinary medicine.

METHOD Material consisted of the samples of pathologically unchanged canine *fascia lata*. Samples were collected from 7 client-owned, euthanized 8-10 years old dogs. The collected material was fixed 2.5% glutaraldehyde in cacodylic buffer (pH 7.4), then post-fixed in 1% OsO₄ and dehydrated in alcohol and propylene oxide series. Then material was immersed in Epon 812 epoxide resin and cut into specimen of 70 nm thickness which were observed by transmission electron microscope.

RESULTS Examined *fascia lata* was characterised by very low cellularity. The main cellular components were represented by fibroblasts and much less numerous mast cells. Additionally adipocytes were present. Moreover several miofibroblast-like cells were observed. They were characterised by prominent cytoskeleton represented by abundant, dense bundles of microfilaments focally terminated at the cell surface.

CONCLUSIONS Low cellularity of *fascia lata* corresponds with its low metabolic requirements which is of great importance in contest of use of this tissue as a graft material. The presence of active substances of mast cell secretory granules may become molecular targets for fascial disorders treatment strategies in both human and veterinary medicine. Moreover the presence of miofibroblast-like cells may support the hypothesis of active contractility of the fascial structures.



Electron micrographs: A) mast cell with multiple, mainly homogeneously dense secretory granules, in one granule dense threads are present (star); B) fibroblast with mitochondria (arrowhead), intracellular bundles of microfilaments (star) and secretory vesicles (arrow)

This research project is supported by grant NCN no. N N518 286540