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

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**BACKGROUND** The canine fascia lata is a deep fascia playing an important role in the motility of a hind limb. In human medicine it is widely used both as autologous and allogeneic graft material. A better understanding of the ultrastructure of the 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, the material was immersed in Epon 812 epoxide resin and cut into specimens 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)](image)

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