

Stereological study of extracellular matrix of penile body in felis domestica: experimental model applied to erectile dysfunction

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The mechanism of penile erection is a complex physiologic process, based on nervous and vascular factors and on penile tissues structural features. Besides the well-known vascular factors, other penile tissues features could play a significant role in the pathophysiology of impotence. The corpus cavernosum (CC) extracellular matrix (ECM) is essential for normal penile erection and is implicated in erectile dysfunction. Although investigations of these issues have used the CC of humans, rats and rabbits, but the arrangement of the CC components was not reported in *Felis domestica* yet. We characterized and quantified the volumetric density (Vv) of the elastic system fibers (ESF) and collagen in the corpus spongiosum (CS) and CC of the *Felis domestica* penis. Adult *felis domestica* (n° 5) were used. The penile midshaft fragments were fixed with 4% phosphate-buffered formalin solution and/or Bouin's liquid for 24-48 hours, and processed using standard histological techniques. The sections were stained with Weigert's Fucsin-Resorcin with previous oxidation and Gomori's trichrome. The ESF and collagen Vv (%) were determined in 25 random fields of each fragment, using the M-42 test grid. The data were analyzed in the software Graphpad Instat to compare the quantitative data of CC and CS for ESF and collagen, the Mann-Whitney Test was used ($p < 0.05$ was considered significant). The Vv (%mean \pm SD) of the ESF and collagen in the CC and CS was respectively: The Vv of ESF average was $27.5\% \pm 0.7$ for CC, $36.6\% \pm 2.3$ for CS ($p 0.007$). The Vv of collagen average was $58\% \pm 3.7$ for CC, $42.5.6\% \pm 3.1$ for CS ($p 0.007$). The present data should therefore provide important information for devising experiments and interpreting results when using the *Felis domestica* penis as a model for penile dysfunctions, especially when making comparisons with humans.

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