

**ANTI-APOPTOTIC PROTEINS IN CANINE CORPORAL CAVERNOSUM FOLLOWING RADICAL PROSTATECTOMY**

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We developed a canine representation to assess anti-apoptotic protein, BCL-2 and the pro-apoptotic protein, BCL-associated Protein X (BAX), as indicators of apoptosis in the corporal cavernosal tissue following radical prostatectomy (RP). We hypothesize that these indicators may reflect the extent of neuropraxia injury following RP. Seven adult male canines (n = 3) undertook RP. At three RP time points (0.5 hr pre-RP, 0.5 hr post-RP, and 1 hr post-RP), whole blood was removed from corporal cavernosal tissue and systemic brachial veins of each canine. To evade rapid initiation of apoptosis, samples were stored on ice ( $\leq 30$  sec.) and centrifuged at 14,000Xg for 15 minutes. Equivalent amounts of protein were resolved on 4-20% gradient SDS-PAGE gels and probed with rabbit antibodies against BCL-2, BAX and endothelial nitric oxide synthase (eNOS). Results were quantified by the Gel-Pro<sup>®</sup>™ program and expressed as mean integrated optical densitometric units. In three of the four samples, BCL-2 levels in the corpora cavernosa plasma increased from the pre-RP to 0.5-hour post-RP, returning to baseline at 1-hour post-RP. BCL-2 levels stayed unchanged in the peripheral plasma. Bax levels were attained in three of the four samples and were elevated at 1-hour post-RP. eNOS levels reflected the action of BCL-2 and were elevated only at the 0.5-hour post-RP. Our early results in a canine representation exhibit that radical prostatectomy induces corporal cavernosal apoptosis with early up-regulation of BCL-2 and eNOS and subsequent elevation of the pro-apoptotic Bax protein. These protein indicators reflect ongoing apoptosis in the corporal cavernosal tissue and can measure the degree of neuropraxia following radical prostatectomy.