**Histochemiluminescent Determination of Glycophenotype in Prostatic Neoplasias**

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Cell differentiation/dedifferentiation includes changes in oligosaccharide composition and distribution in the cell surface glycoconjugates. Lectins have been used as auxiliary tools in histopathological diagnosis of neoplasias. In our lab, chemiluminescence has been used to characterize the glycophenotype of those tissues by labeling lectin with acridinium ester. This work aimed to develop a quantitative method employing *Concanavalin A* (Con A), *Ulex europaeus agglutinin* (UEA-I) and *Peanut agglutinin* (PNA) lectins conjugated to acridinium ester (AE) for evaluation of the carbohydrate expression in prostatic tissues: normal (n=5), benign prostatic hyperplasia (BPH; n=50) and prostate carcinoma (PCa; n=50). Tissue slices (8µm thickness and 0.25cm² area) were deparaffinized, hydrated and treated with trypsin, followed by incubation with Con A-AE, UEA-I-AE and PNA-AE (100 mg/ml) and transferred to test tubes for chemiluminescent quantification (expressed in Relative Light Unit - RLU). Transformed tissues showed statistically significant lower RLU values for α-D-glicose/manose (BPH: 226,931 ± 17,436; Adenocarcinoma: 239,520 ±12,398) and Gal-β(1-3)-GalNAc values (BPH: 28,754 ± 2,157; Adenocarcinoma: 16,728 ± 1,204) than normal tissues (367,566 ± 48550 and 409,289 ± 22,336, respectively). However, higher α-L-fucose expression was observed in adenocarcinoma (251,118 ± 14,193 RLU) compared with the normal tissue (200,979 ± 21,318 RLU) and BHP (169,758 ± 10,264 RLU). RLU was abolished by inhibiting the interaction between tissues and lectins using their specific carbohydrates. Therefore, these results indicate that the used method is an efficient and promising tool for quantitative differentiation among the analyzed prostatic tissues, contributing to decrease the subjectivity of the histopathological analysis.

**Keywords**: chemiluminescence, lectins, carbohydrates, prostatic cancer.

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