Chemiluminescent Detection Of Sialic Acid In Cutaneous Tumor Tissues Using Maackia Amurensis Lectin Conjugated To Acridinium Ester.

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Cellular membrane glycoprotein profile can change in cancer. Those alterations are related to tumour proliferation, metastasis and evasion of immune system. Lectin histochemistry is a technique used for the investigation of those glycophenotype changes. Chemiluminescence assay is a widely used and effective technique for quantitative analysis of proteins, nucleic acids and carbohydrates due to its high sensitivity, specificity and rapid testing. This work aimed to use Maackia amurensis agglutinin (MAA) conjugated to Acridinium Ester (AE) to quantify the sialic acid expression on the surface skin cells. MAA was conjugated to AE and purified by Sephadex G-25 chromatography. The MAA-AE conjugate was assayed for haemaglutination activity and chemiluminescence (expressed as relative light units - RLU). Biopsies of normal skin (NS, n = 15), actinic keratosis (AK, n = 9), keratoacanthoma (KA, n = 13), squamous cell carcinoma (SCC, n = 13) and basal cell carcinoma (BCC, n = 17) were incubated with MAA-AE conjugate, and theirs chemiluminescence assayed. The expression of sialic acid in Actinic keratosis (65,370 ± 16,811 RLU) and squamous cell carcinoma (44,864 ± 11,644 RLU) showed to be statistically higher compared with those values found for the keratoacanthoma (26,927 ±6,942 RLU), basal cell carcinoma (29,836 ± 6,179) and normal tissue (35,687±8,226 RLU). These three last values were not statistically different among them. Chemiluminescent lectin histochemistry showed to be valuable because decreases the subjectivity of conventional histochemistry using hematoxylin and eosin. However, the RLU values did not show a different profile regarding neoplasia and normal tissues.

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