TRPV2 amplification in gastric adenocarcinoma

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BACKGROUND: Gastric cancer is a common type of cancer. Copy number variation (CNV) has recently been shown to influence risk for several cancers. In a previous study, using array-Comparative Genomic Hybridization, we detected 14% of transient receptor potential cation channel, subfamily V, member 2 (*TRPV2)* amplification in intestinal gastric adenocarcinoma samples and it was statistically associated with patients aged 50 years or less. It is noteworthy that alterations involving *TRPV2* gene in gastric carcinogenesis have never been described in literature, although some studies have reported the amplification of the 17p region, where this gene is located. Moreover, there are many studies describing the oncogenic role of *TRPV2* in esophageal squamous cell carcinoma, hepatocellular carcinoma, prostate cancer and bladder cancer, including its migration and invasion potential.

HYPOTHESIS: *TRPV2* amplification may be associated with clinical and pathological data of patients.

METHODS: We analyzed 88 gastric adenocarcinoma samples, obtained from primary gastric tumors of patients from João de Barros Barreto University Hospital (HUJBB), located in Pará State, Brazil.The copy number of *TRPV2* was determined by real-time PCR. Statistical analyses for comparisons of categorical variables between groups were done by means of Chi-square and Fisher's Exact tests, and were performed using PASW statistics program. Odds Ratio (OR) and Confidence Interval (CI= 95%) were also calculated. A two-tailed probability value $p \leq 0.05$ was considered statistically significant.

RESULTS: *TRPV2* amplification did not show association with clinical and pathological data, maybe because of sample size. A total of 9% of samples showed *TRPV2* amplification and all of them presented lymph node metastasis, but the association was statistically inconclusive (p=0.067). Within intestinal group, there was no association between patients aged 50 years or less and gene amplification. In conclusion, our results showed that *TRPV2* gene may be related with induction of lymph node metastasis, however, more studies should be done to better investigate the role of this gene in gastric carcinogenesis.