Tumor Markers of Gastric Cancer

Costa, Luiza (School: Colegio Degraus)

Gastric adenocarcinoma is the fourth most common cancer in Brazil. . Symptoms appear at a more advanced stage of the disease, weight loss, anorexia, dysphagia, epigastric pain, melena and early satiety are the main symptoms. Tumor markers are macromolecules present in the tumor, blood or other biological fluids that, when present and/or changes in their concentrations, are related to the development and growth of neoplastic cells. The tumor markers most used in clinical practice are those produced by the tumor itself. MicroRNAs are small RNA molecules that regulate gene expression in cells with important functions in development, cell differentiation and regulation of the cell cycle. Micrornas (mirnas) represent a new class of endogenous RNAs of 20 to 30 nucleotides, which act as post-transcriptional silencers, inhibiting the translation of mRNAs. Several studies have already shown that miRNAs are involved in the initiation and progression of cancer. The aim of the present study is to identify microRNAs as candidates for tumor markers for stomach cancer. The methodology of this project is based on the use of databases to identify neoplastic tissues and normal tissues. The results obtained were: it was possible to find differences in the microRNAs expressed in individuals with the tumor and healthy individuals. The found genes of miR-3648-1 and miR-3648-2 and miR-377. Based on our results, we can conclude that in microRNA expression analysis studies there was difficulty in specifically identifying stomach cancer. We concluded that according to GEPIA analyses, the miR-3648 family would be an interesting group of candidate microRNAs. According to data from XENA, miR377 would be a candidate microRNA for a tumor marker for this cancer.

Awards Won: