ALTERED GLYCEROLIPID METABOLISM AND CYTOKINE SIGNALING IN GASTROESOPHAEAL ADENOCARCINOMAS.

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We demonstrated that, in intestinal metaplasia of gastric or esophageal mucosa (Barrett's disease), a set of genes functionally related to glycerolipid metabolism and cytokine signaling have altered expression. Whereas signaling favoring inflammation is augmented, expression of genes involved in peroxilipid and aldehyde metabolism is diminished. To validate these observations, we used Q-PCR and measurer expression of the 9 genes responsible for alterations in these two pathways: IL1R2, CCL20, CCL18, INHBA, IL4R, IFNAR2 (citokyne), AKR1B10, ALDH3A2, ADH1B, DGKQ and CDS1 (glycerolipid). mRNA levels were determined in 24 samples used in the array experiments and in 20 new, independent samples. There were 3 samples representing normal mucosa, 5 for inflammatory stage, 15 for intestinal metaplasia, and 21 for adenocarcinomas. For each gene, we determined the expression level based on $?C_T$ as compared to the control and determined arbitrary units to determine expression in relation to normal mucosa. The differential expression of all 9 genes was validated, with statistical significance for 7 genes. Our data confirm that inflammation in patients with chronic intestinal metaplasia might leads to higher levels of aldheydes. Considering the potential of aldehydes for DNA damaging, this pathway could favor oncogenic transformation and hence, these enzymes might be targets for preventing adenocarcinomas of the gastroesophageal mucosa.