Evaluation of TNF-alpha expression changes causing chronic inflammation in gastric cancer

Gastric cancer is the second leading cause of cancer deaths in the world.One of the factors contributing to the development of gastric cancer is the persistent inflammation caused by Helicobacter pylori infection.Inflammation is a defense system against chemical stimulation, injury, or infection.Chronic inflammatory conditions are caused by genetic mutations, autoimmune diseases, and exposure to environmental factors.Inflammatory cells infiltrate almost all solid human tumors and are involved in all stages of carcinogenesis by producing different subsets of cytokines.Tumor necrosis factor is a cytokine and is known as the primary mediator of inflammation produced by monocytes.Tumor necrosis factor is associated with all stages involved in tumor growth, survival, invasion, proliferation, angiogenesis as well as metastasis.Disorders in the regulation of tumor necrosis factor synthesis cause a wide variety of diseases, including gastric cancer and various inflammatory diseases.

Using TCGA database TCGA Abiolinks package RNAsequence data for all gastric and normal cancer samples available at TCGA site are downloaded in HTseq count mode.The clinical data of each sample is also extracted and then normalized using the LIMMA package and TMM method.The logarithmic scale is used to evaluate the gene expression differences in tumor and normal tissues in this database.

The purpose of this study was to find out how tumor necrosis factor plays a key role in linking inflammation and gastric cancer And evaluation of tumor necrosis factor expression changes to introduce biomarkers for gastric cancer.