

عنوان مقاله:

Bioinformatics analysis of gene expression profiling for identification of key proteins associated with non_alcoholic fatty liver disease

محل انتشار:

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خلاصه مقاله:

Introduction: Non-alcoholic fatty liver disease (NAFLD) is a condition in which triglycerides accumulate in the liver cells of people who have no history of alcohol use. Damage to liver cells such as apoptosis, necrosis, inflammation and then fibrosis are features of this disease.. The importance of this disease is due to the destruction of liver cells, which is known as one of the most common and important causes of cirrhosis and liver failure in the world. Its prevalence in the general population in different countries is about ۳-۲۵%, and in the general population of Iran is about ۲.۹-۷.۱%, and in diabetics is about ۵۵.۸%. This statistic is increasing due to lifestyle changes. Methods: By visiting the GEO site, the raw micro data was downloaded with the access code GSE۸۹۶۳۲. Using GEO۲R online software, genes with different expression (DEGs) were selected in two cases of fatty liver disease, including: simple steatitis and non-alcoholic steatohepatitis due to their significance. Enrichment analysis of altered gene groups for cell pathway and processes associated with nonalcoholic fatty liver disease was performed using the metaspape web server and the construction of a protein interaction network (PPI). Key genes and proteins involved in NAFLD were also identified using string, cytoscape and centiscape software. Results: ۱۴ important and key expressed mutation genes between healthy and diseased groups in two different cases of non-alcoholic fatty liver disease, using protein-protein interaction network (PPI) and named related software known as: TYMS, ASPM, MYC, IL۶, VEGFA, JUN, IL۱B, FOS, TLR۲, IL۱۰, CXCL۸, CD۴۴, MMP۹ and also obtained similar cellular pathways and processes related to NAFLD is drawn below. Conclusion: The present study shows that some important genes and pathways may be associated with the occurrence and progression of NAFLD disease. Important biomarkers for prevention, treatment and new therapeutic goals were identified in this study.

کلمات کلیدی:

Non-alcoholic fatty liver disease, microarray technique, protein interaction network, gene expression pattern

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