

Apoptotic Effect of Tamoxifen on Hepatocellular Carcinoma HepG 2 Cell Line

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Abstract

Hepatocellular carcinoma (HCC) is the sixth most common cancer, and the third most common cause of cancer-related death worldwide. Major causes of hepatocellular carcinoma include hepatitis B, hepatitis C, alcoholic liver disease, and possibly nonalcoholic steatohepatitis. Tamoxifen (TAM) inhibits proliferation and induces apoptosis in many cancers such as breast cancer cell, gastric cancer BGC823 cell, SK-HEP-1 hepatoblastoma cells and human cholangiocarcinoma cells. The aim of the present study was to analyze the apoptotic and antiproliferative effect of TAM in the hepatocellular carcinoma HepG2 cell line. Materials and Methods: Cells were treated with various concentration of TAM and the MTT assay was used and then cells were treated with single dose of TAM (25 μ M) and flow cytometry assay was performed. Results: TAM inhibited the growth of HepG2 cells and induced apoptosis significantly with a time- and dose-dependent manner. Discussion: Our finding clearly indicated that TAM has a significant inhibitory effect and induces apoptosis with a dose- and time-dependent manner. Conclusion: TAM can significantly inhibit the growth of HepG2 cells and plays a significant role in apoptosis of this cell line.