Niacin and Beta-Curcumene from Ziziphus spina-christi Are the Most Promising Approaches to Treating Alpha-1 Antitrypsin Deficiency

Al-Muhaizaa, Saleh

AlSolaiman, Abdulah

Alpha-1 Antitrypsin Deficiency (AATD) is a genetic condition characterized by a reduction in the Alpha-1 Antitrypsin (AAT) protein,This reduction is associated with lung and liver disorders. This study was designed to determine whether there is effect of the compounds Vitamin B3 (Niacin) and beta.-curcumene (ACMC-20n1oz) existing in Ziziphus spina-christi on Alpha-1 Antitrypsin (AAT) . Thus, we tested the effect of Ziziphus spina-christi extracts containing these compounds as a promising approach to treating AATD. Extractions was performed by the "Jenkinson & Ladd method". Two extracts were collected in an Aqueous phase and an Alcoholic phase. Each extract was further separated into five fractions utilizing the spectrometric protocol. Vitamin B3 (Niacin) and beta.-curcumene (ACMC-20n1oz) were tested separately and in combination. We examined the effect of the extracts on two different liver Cell Lines " AML 12 & Hep G2 "to measure the rate of secretion of AAT protein treated both cell lines with three different concentrations (2.5M, 5M, 7M) and we found the most effective concentration was (7M). Our results showed that the AAT protein levels were elevated after 81 days. In the first group it was 156±183 Mg/dL and became 174±191.4 Mg/d , while in the second group the level was 48.5±61.4 Mg/dL, and became 53.3±76.14 Mg/dL This results indicate that the presently of the increase was 11.538% for the first liver cell line and 9.897% for the second liver cell line. This results indicate that Ziziphus spina-christi extract is a promising approaches to treating AATD.