

# Histopathologic study of the Antiestrogenic Nolvadex Induced Liver Damage in Rats and Vitamins Ameliorative Effect Fatma A. Morsy, Amina Gamal el Din, Nermeen M. Shaffie and Manal A. Badawi

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### Abstract :

**ABSTRACT:** This study was designed to evaluate the effects of antiestrogenic Nolvadex (used for breast cancer treatment) on rat liver and the possible protective effects of vitamin C and/ or E. Material and methods: A total of 140 adult female albino rats were used; divided into seven groups; each containing 20 rats: First group: as control. Second group: orally daily dosed with Nolvadex 20 mg/kg b. w. for three weeks. Third group: orally given vitamin C (0.02 g/100 g b wt), 15 min before daily Nolvadex administration. Fourth group: given vitamin E (120 mg/Kg b.w), 15 min prior to daily Nolvadex administration. The fifth group was given combination of the two vitamins C & E (0.02 g/100 g b.w.) and (120 mg/kg b.w.) respectively, 15 min before daily Nolvadex administration. Each of the remaining two groups was daily given vitamin C (0.02 g/100 g b.w.) and/or E (120 mg/kg b.w.) for two weeks.

Paraffin sections were used for histopathological , quantitative image analysis DNA ploidy and histochemical studies .Electron microscopy was performed. Results: Histopathological degenerative effects in the form of vacuolar degeneration, fatty changes and hydropic degeneration were noticed in Nolvadex treated rat liver. Karyolysis and karyorrhexis were also seen. Dysplasia and chromatin clumping were observed in scattered hepatocytes together with a decrease in DNA content (hypoploidy) and marked diminution of protein and mucopolysaccharides content. Histopathological, histochemical and ultra structural changes were diminished in rats treated with vitamins C and/ or E prior to Nolvadex. Conclusion: The treatment of rats with vitamins C and/or E prior to Nolvadex resulted in amelioration of the histopathological ,histochemical and ultrastructural changes of liver. [Nature and Science. 2010;8(5):1-15]. (ISSN: 1545-0740).

### Key Word :

Histopathology – antiestrogenic - Nolvadex – liver – rat – Vitamins

Volume 8, Number 5, May 2010 , ISSN 1545-0740