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The Protective Effect of Vitamins E and C on The Gastric Mucosal Barrier in Rats Irradiated With X-Rays

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Abstract: The protective effect of vitamins E and C on the gastric mucosal barrier in rats irradiated with X-rays was investigated. Thirty-two male Wistar Albino rats were used. The animals were divided into four groups and arranged of follows: the first group (n=8) was the sham group; the second group (n=8) was the control group which was irradiated with X-rays, the third group (n=8) to which vitamin C was administered and the fourth group (n=8) to which vitamin E was given. The animals in the groups except the sham group were irradiated with 8.9 Gy X-rays. Twenty-four hours later, the animals were sacrificed by cervical dislocation. The stomach was removed and opened along the greater curvature. The amounts of mucus and phospholipid, which are the components of gastric mucosal barrier, were determined by Corne and Baur's method. The amounts in irradiated rats were found to be lower relative to those in the rats which were not irradiated ($p<0.001$, $p<0.001$, respectively). The amounts were observed to be higher in the vitamin C administered group compared with the irradiated control group ($p<0.001$, $0<0.05$, respectively). In the group to which vitamin E was given, the amounts were also found to be higher relative to those in the control group ($p<0.001$, $p<0.05$ respectively). The results indicate that vitamins E and C protect the gastric mucosal barrier against X-rays.

Key Words: X-rays, Gastric mucosal barrier, Vitamin E, Vitamin C.

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