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INFLUENCE OF ETHANOL ON APOPTOSIS OF LYMPHOCYTES AND NEUTROPHILS

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Objective of this study was researching the apoptosis of lymphocytes and neutrophils in alcoholic patients as compared with healthy individuals. 58 men with alcoholism were examined along with 22 healthy age-matched men. The content of cells expressing the Fas-receptor as apoptosis marker was studied by indirect immunofluorescent method. Also determination of apoptosis by morphological examination was performed.

The relative content of lymphocytes expressing receptors of readiness to Fas-dependent apoptosis in alcoholics ($16,56 \pm 1,19\%$, $p < 0,05$) significantly exceeds the same index in healthy controls ($11,63 \pm 0,31\%$, $p < 0,05$). Also influence of 0,5% of ethanol in vitro on expression of receptor CD95 was studied. In group of healthy donors there is statistically significant increase in a parameter apoptosis lymphocytes ($17,00 \pm 0,85\%$ and $11,63 \pm 0,31\%$ accordingly, $p < 0,05$) and for alcoholics it is shown insignificant changes up to $20,05 \pm 1,72\%$. The percentage of lymphocytes with morphological characteristics of nuclear fragmentation in alcoholic patients was five as much in comparison with the corresponding indexes of healthy men ($5,07 \pm 0,63\%$ and $0,90 \pm 0,18\%$, $p < 0,001$ respectively). The percentage of neutrophils with morphological characteristics of nuclear fragmentation in alcoholic patients statistically increase in comparison with the corresponding indexes of healthy men ($1,14 \pm 0,36\%$, and $0,42 \pm 0,14\%$, $p < 0,05$ respectively). Also the index of apoptosis realization was calculated. It has been found that the index of apoptosis realization in alcoholics ($14,36 \pm 2,38\%$) significantly exceeds the same index in healthy controls ($7,74 \pm 1,65\%$, $p < 0,05$).

According to the performed analysis it is possible to suppose that alcohol increases the readiness of lymphocytes and neutrophils to apoptosis.