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STUDY OF THE EFFECTS OF ENERGY DRINKS ON DUDENUM STRUCTURES OF EXPERIMENTAL RATS

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ABSTRACT

Energy drinks are products that stimulate and excite the human central nervous system, causing a feeling of freshness, increased work capacity and activity. In this regard, the production of treatment, preventive measures, and correction methods for diseases of internal organs remains one of the urgent problems of modern medicine, therefore, there is a need to conduct scientific research on the study of the effects of these drinks on the living organism all over the world.

KEYWORDS

Treatment, microscopically, membrane, anatomical, energy drink

INTRODUCTION

Energy drinks are products that stimulate and excite the human central nervous system, causing a feeling of freshness, increased work capacity and activity.

In this regard, the production of treatment, preventive measures, and correction methods for diseases of internal organs remains one of the urgent problems of modern medicine, therefore, there is a need to conduct scientific research on the study of the effects of these drinks on the living organism all over the world.

Microscopically, the histioarchitectonics of the mucous membranes of the duodenum was preserved, cases of hypersecretion of all types of secretory cells were detected in the villi of the mucous membrane.

chronically , it was found that the anatomical layers of the intestinal wall were preserved, and the goblet cells in the villi of the mucous membrane were filled with secretion and increased in size. Chronic respectively When the histological preparations of 12-finger intestines of rats that received energy drink for 3 months were studied, the histioarchitectonics of the intestinal tissue was preserved, mainly the intensity of goblet cells and desquamated foci of the covering epithelium were determined, the goblet cells in the submucosal layer were vacuolated in various sizes, and

the muscle layer was thickened. It was found that changes in the 12th intestine are manifested by hypersecretion of goblet cells, increase in size, thickening of secretion. The villi are thickened, foci of lymphocytic infiltration are identified in their stroma. Epithelial cells of the villi are vacuolated, processes of desquamation are increased, intermediate swellings are detected in the stroma of the villi. Studies of the morphological condition of the duodenum near the pyloric area of rats that have been chronically consuming energy drinks for 3 months have shown that Brunner's glands are sharply expanded, band-like, hyperplastic, goblet cells of various sizes are preserved in their mucous membrane, and lymphocytes are clustered in the stroma of the villi. Signs of edema and plasmatic swelling were detected in the basal membrane of the covering epithelia. It was observed that the formation of fullness and interstitial swellings in the blood vessels under the basement membrane was thickened in the control group of villi compared to that of the control animals.

Therefore, the Brunner's glands in the areas of the duodenum close to the pyloric area have undergone hyperplasia, an increase in the number of gland cells, a sharp expansion of the spaces between the gland branches, the occurrence of vacuolar dystrophic changes in the gland cells, an increase in the perimeter of the gland border and other changes are revealed, energy drink confirms the increased compensatory function of the Brunner's glands aimed at eliminating this process by increasing the concentration of SO₂ in the food and increasing the acidic environment in the food. Exactly, Brunner's glands can increase with the consumption of any strong carbonated drinks, but according to foreign literature, this effect is increased by 2.5-5 times under the influence of energy drinks, and these changes were confirmed in our research work.

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