

generation cephalosporins. IDSA/PIDS (2011) recommends for children under 5 years old amoxicillin, for children over 5 years old amoxicillin, macrolides. The European Society for Paediatric Infectious Diseases 2012 Guideline recommends for children 3 month – 5 years penicillin G or aminopenicillins, for critically ill patients antistaphylococcal penicillins, clindamycin or vancomycin. Consensus Guidelines for Inpatient Management of CAP in infants and children > 3 months: UCSF Northern California Pediatric Hospital Medicine Consortium recommends for not complicated CAP ampicillin as first choice drug, in severe penicillin allergy - levofloxacin or azithromycin; for complicated CAP– ceftriaxone and clindamycin or vancomycin.

Conclusion: The present study demonstrates that for treatment not complicated CAP penicillins are recommended. If no response to first-line treatment – macrolides may be added. In severe CAP intravenous antistaphylococcal penicillins, second and third generation cephalosporins, linkozamids, glycopeptides are recommended.

The present findings will be used in detection antibiotic sensitivity of the main bacterial pathogens in planktonic and biofilm forms of their presence to the listed antibacterial drugs with microtest system method.

*Kharchenko Elina, Sklyaruk Diana, Onishchenko Anatolii, Tkachenko Anton*  
Kharkiv National Medical University  
Department of Biological Chemistry  
Kharkiv, Ukraine  
Scientific advisor: assoc. prof. Gorbach T.V.

## **THE CONTENT OF CASPASE-3 IN LIVER HOMOGENATES OF RATS ORALLY EXPOSED TO A CAFFEINATED ENERGY DRINK**

Introduction. Caffeinated energy drinks (CEDs) have been consumed for decades due to their ability to improve both physical and mental performance. It has been reported that major ingredients of CEDs such as caffeine, taurine and glucuronolactone may show beneficial health effects. Nevertheless, there is some evidence that a combination of them in energy beverages may promote morphological changes in the liver. However, little is known on the ability of CEDs to induce apoptosis of hepatocytes in response to their oral consumption.

**Aim.** The aim of our research was to evaluate the content of caspase-3 in liver homogenates of rats orally exposed to a CED during two weeks to assess the intensity of apoptosis.

**Materials and methods.** The experiment was performed on 16 adult female WAG rats randomly divided into two groups with 8 animals in each. Group 1 included the rats daily orally exposed to a CED (12 ml/kg of body weight) during two weeks. The control group (group 2) consisted of intact animals obtaining drinking water instead. As soon as the animals were sacrificed, their livers were isolated to prepare homogenates. The content of caspase-3 was determined in the liver homogenates by ELISA. A GraphPad Prism 5 application was used to statistically process the numerical data obtained by performing a Mann-Whitney U test.

**Results.** The content of caspase-3 in liver homogenates of rats orally exposed to CEDs during a fortnight was found to be approximately 25 % statistically significantly higher compared with the control group. Given that caspase-3 is an executioner caspase in apoptosis involved in proteolytic degradation of intracellular proteins, its increase in liver homogenates indicates the activation of apoptosis.

**Conclusion.** Thus, it can be assumed that CED oral consumption promotes apoptosis of hepatocytes.

*Konoplia Lina, Topoliuk Kateryna*  
Kharkiv National Medical University  
Department of Human Anatomy  
Kharkiv, Ukraine  
Scientific advisor: assoc. prof. Izmailova L. V.

## **COMPARATIVE CHARACTERISTICS OF THE STRUCTURE OF HUMAN COCHLEA WITH SOME SPECIES OF MAMMALS DURING ONTOGENESIS**

**Introduction.** The inner ear of a person has a rather complex structure, it consists of semicircular canals, vestibule and cochlea.

**Materials and methods.** In this work, a comparative characteristic of the structure of cochlea between some species of mammals will be carried out on the basis of literary and museum material from the Department of Human Anatomy of the Kharkiv National Medical University.