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EXPRESSION OF P-GLYCOPROTEIN (P-GP/MDR1/ABCB1) IN RAT LIVER, KIDNEYS, AND GASTROINTESTINAL TRACT; DISTRIBUTION AND SEX DIFFERENCES

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Abstract

P-gp is an ATP-dependent transmembrane efflux transporter constitutively expressed in the liver bile canaliculi (BC), renal proximal tubules (PT), intestinal epithelium, blood-tissue barriers, maternal-fetal barriers, and hematopoietic cells. In the BC, the P-gp expression exhibits sex differences (males (M) < females (F)), but the responsible hormone(s) causing these differences in the BC, and possibly in other P-gp expressing rat organs, have not been defined. Using a commercial monoclonal antibody, we studied effects of sex and gonadectomy on the localization and abundance of P-gp by immunocytochemistry and Western blotting in the liver, kidneys, and gastrointestinal tract of adult M and F rats. We confirmed sex differences (F > M) in the P-gp expression in BC; gonadectomy in M, but not in F increased this expression. In the kidneys, the antibody stained the PT brush-border membrane; gonadectomy in M, but not in F, decreased this expression in the cortex and increased in the outer stripe. In the intestine, the P-gp expression increased from proximal to distal segments, but sex differences or effects of gonadectomy were not observed. The data indicate that in rats, androgens inhibit the expression of P-gp in BC and PT S3 segments, and stimulate in the PT S2 segments.

BALANCING LANGUAGE IMBALANCES IN PHYSIOLOGICAL TERMINOLOGY

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Abstract

Omnipresent globalization process undoubtedly entails substantial linguistic issues in many areas of everyday and professional communication. Dominance of one particular language as a prime, means its communication worldwide and frequent usage of its words loaned in many official languages. Croatian language in the medical profession and in the biomedical sciences is undeniable influenced by the dominance of the English language. So far, systematic standardization of Croatian medical terminology has not been implemented. Arbitrary and unsystematic loan of new terms often impairs basic features of scientific and professional utterance, such as exact determinism and uniformity. In particular, it has been an aggravating circumstance for students, who are obligated to precisely designate and delineate all the new terms they have been exposed to on the daily basis. The aim of this study was to investigate perceptions and attitudes of the medical students in Croatia about Croatian medical terminology. The study was performed as a part of the project HRANAFINA (cro. Hrvatsko anatomsko i fiziološko nazivlje; engl. Croatian anatomical and physiological terminology). A total of 249 students from Universities of Zagreb, Split and Rijeka were examined by survey questionnaire. 97 % of participants stated that during their study meets inconsistent terminology, and 54 % of them indicated that it is a common occurrence. 87 % of students surveyed consider that is necessary to standardize Croatian medical terminology. 40% respondents believe that it is reasonable to design new Croatian words for newly emerged concepts which still do not have Croatian nomenclature, while 74% hold that already widely accepted "anglicized" medical terms should not be replaced by "croatized" treminology. We can conclude that is, according to student's attitudes, standardization of Croatian medical terminology arguably needed, mainly because of frequent inconsistency, but it should be based on regardful balancing between widely accepted loaned words and implementation of new Croatian terms.