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BACKGROUND: Risk factors associated with postoperative pain intensity and duration, as well as consumption of analgesics after ophthalmic surgery are poorly understood. METHODS: A prospective study was conducted among adults (N=226) who underwent eye surgery at the University Hospital Split, Croatia. A day before the surgery, the patients filled out questionnaires assessing personality, anxiety, pain catastrophizing, sociodemographics and were given details about the procedure, anesthesia, and analgesia for each postoperative day. All scales were previously used for the Croatian population. The intensity of pain was measured using a numerical rating scale from 0 to 10, where 0 was no pain and 10 was the worst imaginable pain. The intensity of pain was measured before the surgery and then 1 hour, 3 hours, 6 hours, and 24 hours after surgery, and then once a day until discharge from the hospital. Univariate and multivariate analyses were performed. RESULTS: A multivariate analysis indicated that independent predictors of average pain intensity after the surgery were: absence of premedication before surgery, surgery in general anesthesia, higher pain intensity before surgery and pain catastrophizing level. Independent predictors of postoperative pain duration were intensity of pain before surgery, type of anesthesia, and self-assessment of health. Independent predictors of pain intensity ≥5 during the first 6 hours after the procedure were the type of procedure, self-assessment of health, premedication, and the level of pain catastrophizing. CONCLUSION: Awareness about independent predictors associated with average postoperative pain intensity, postoperative pain duration, and occurrence of intensive pain after surgery may help health workers to improve postoperative pain management in ophthalmic surgery.

Erjavec I¹, Bordukalo-Niksic T¹, Brkljacic J¹, Grcevic D², Mokrovic G³, Kesić M³, Rogic D³, Zavadoski W³, Paralkar VM³, Grgurevic L¹, Trkulja V⁶, Cicin-Sain L⁶, Vukicevic S¹. Constitutively elevated blood serotonin is associated with bone loss and type 2 diabetes in rats. PLoS One. 2016;11(2):e0150102.

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Reduced peripheral serotonin (5HT) in mice lacking tryptophan hydroxylase (TPH1), the rate limiting enzyme for 5HT synthesis, was reported to be anabolic to the skeleton. However, in other studies TPH1 deletion either had no bone effect or an age dependent inhibition of osteoclastic bone resorption. The role of 5HT in bone therefore remains poorly understood. To address this issue, we used selective breeding to create rat sublines with constitutively high (high-5HT) and low (low-5HT) platelet 5HT level (PSL) and platelet 5HT uptake (PSU). High-5HT rats had decreased bone volume due to increased bone turnover characterized by increased bone formation and mineral apposition rate, increased osteoclast number and serum C-telopeptide level. Daily oral administration of the TPH1 inhibitor (LX1032) for 6 weeks reduced PSL and increased the trabecular bone volume and trabecular number of the spine and femur in high-5HT rats. High-5HT animals also developed a type 2 diabetes (T2D) phenotype with increased: plasma insulin, glucose, hemoglobin A1c, body weight, visceral fat, β-cell pancreatic islets size, serum cholesterol, and decreased muscle strength. Serum calcium accretion mediated by parathyroid hormone slightly increased, whereas treatment with 1,25(OH)2D3 decreased PSL. Insulin reduction was paralleled by a drop in PSL in high-5HT rats. In vitro, insulin and 5HT synergistically up-regulated osteoblast differentiation isolated from high-5HT rats, whereas TPH1 inhibition decreased the number of bone marrow-derived osteoclasts. These results suggest that constitutively elevated PSL is associated with bone loss and T2D via a homeostatic interplay between the peripheral 5HT, bone and insulin.


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Telomerase expression is an important mechanism of tumor unlimited replicative potential. The aim of this study was to evaluate prognostic impact of telomerase activity in breast cancer patients and to correlate telomerase activity with established prognostic factors. We analyzed tissue of 102 malignant breast lesions and 20 healthy breast tissues. Telomerase activity was determined by telomeric repeat amplification protocol assay. Telomerase activity was present in 77 (75.49%) of 102 breast cancers. Telomerase activity in breast cancers was statistically significantly higher in comparison with the activity in normal breast tissue. The levels of telomerase activity were significantly positively correlated with tumor size, axillary nodal status, histological grade, HER-2/neu protein expression in tumor tissue and expression of the nuclear antigen Ki-67. A statistically significant negative correlation was found between the presence of ER and telomerase activity. There was no correlation between telomerase activity and concentration of PR or the age of patients. Kaplan-Meier analysis showed that patients with higher telomerase activity had significantly shorter 10-year disease-free survival (p < 0.0001) and 10-year overall survival (p < 0.0001) than those with lower telomerase activity. These results were confirmed by logistic regression analysis. Our results support the prognostic role of telomerase activity and its relationship with the more aggressive phenotype of breast cancer.
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AIMS: To determine whether the brain disturbances develop in late-onset intrauterine growth restriction (IUGR) before blood flow redistribution towards the fetal brain (detected by Doppler measurements in the middle cerebral artery and umbilical artery). Further, to evaluate predictive values of Doppler arterial indices and umbilical cord blood gases and pH for early functional and/or morphological brain disturbances in late-onset IUGR. STUDY DESIGN: This cohort study included 60 singleton term pregnancies with placental insufficiency caused late-onset IUGR (IUGR occurring after 34 gestational weeks). Umbilical artery resistance index (URI), middle cerebral artery resistance index (CRI), and cerebroumbilical (C/U) ratio (CRI/URI) were monitored once weekly. Umbilical blood cord samples (arterial and venous) were collected for the analysis of pO2, pCO2 and pH. Morphological neurological outcome was evaluated by cranial ultrasound (cUS), whereas functional neurological outcome by Amiel-Tison Neurological Assessment at Term (ATNAT). RESULTS: 50 fetuses had C/U ratio>1, and 10 had C/U ratio≤1; among these 10 fetuses, 9 had abnormal neonatal cUS findings and all 10 had non-optimal ATNAT. However, the total number of abnormal neurological findings was much higher. 32 neonates had abnormal cUS (53.37%), and 42 (70.00%) had non-optimal ATNAT. Furthermore, Doppler indices had higher predictive validity for early brain disturbances than umbilical cord blood gases and pH. C/U ratio had the highest predictive validity with threshold for adverse neurological outcome at value 1.13 (ROC analysis), i.e., 1.18 (party machine learning algorithm). CONCLUSION: Adverse neurological outcome at average values of C/U ratios>1 confirmed that early functional and/or structural brain disturbances in late-onset IUGR develop even before activation of fetal cardiovascular compensatory mechanisms, i.e., before Doppler signs of blood flow redistribution between the fetal brain and the placenta.


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BACKGROUND: Atopic dermatitis (AD) is a common childhood disease of increasing prevalence that not only changes the life of the affected children, but also affects the social and emotional functioning of their families. OBJECTIVES: The aim of our study was to assess the quality of life (QOL) of parents with children with AD and its predictors. METHODS: One hundred seventy-one parents of children with AD attending the outpatient Pediatric Dermatology Unit, Children’s Hospital Zagreb, participated in the study. The severity of AD was estimated using the Scoring Atopic Dermatitis (SCORAD) index. Parents were asked to complete the Croatian version of the Family Dermatology Life Quality Index (FDLQI), the Patient-Oriented (PO) SCORAD, the Perceived Stress Scale (PSS), and a general questionnaire during a regular follow-up visit. RESULTS: Family QOL is significantly correlated with the SCORAD score (correlation coefficient [r] = 0.578), PO SCORAD (r = 0.447), itching (r = 0.528), sleeplessness (r = 0.583), and PSS (r = 0.464). When these factors were entered into a regression analysis, they predicted as much as 67% of the variance of QOL (FDLQI), with significant predictors being PO SCORAD, PO sleeplessness, and PSS, and they remained significant even after controlling for a number of general and medical factors. CONCLUSIONS: The severity of illness as perceived by dermatologists and parents is similar, and itching, sleeplessness, and perceived stress are strong QOL predictors of parents caring for children with AD.