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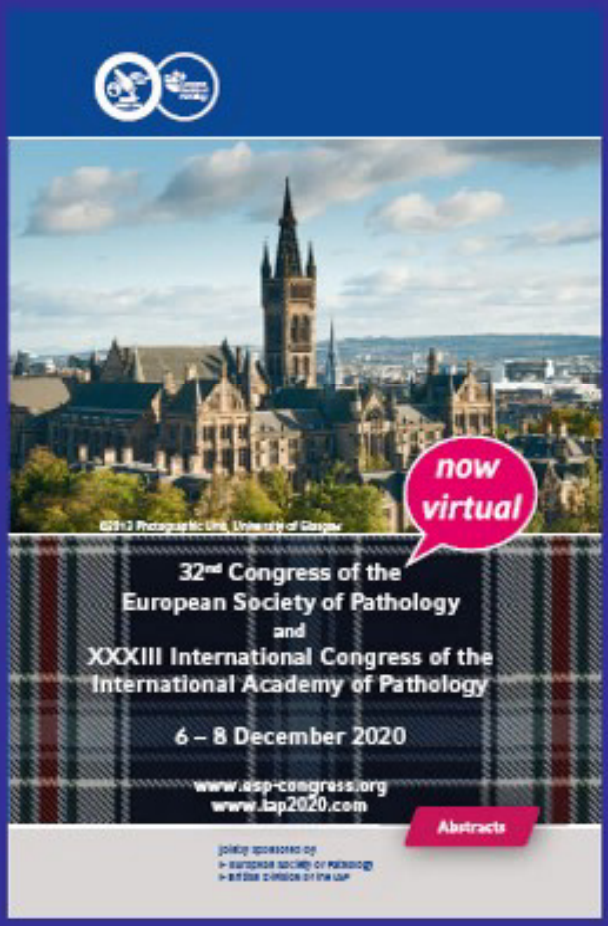

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Background & objectives: Objective: a morphological study of the NeuroD1, Nkx2.2, Isl1, somatostatin in various forms of congenital hyperinsulinism (CH).
Methods: Materials and methods included immunohistochemistry examination with NeuroD1, insulin, somatostatin, ChrA, Nkx2.2, Isl1, and morphometric analysis of pancreas fragments from 18 CH children and 9 normal pancreases.
Results: The number of cells with the expression of ChrA, Isl1, Nkx2.2 and NeuroD1 was significantly higher than in the normal pancreas in contrast to somatostatin. The level of Isl1expression corresponded to Nkx2.2 expression. NeuroD1 was expressed in 58,4±9,7% and 83 ±4,7% of endocrine cells in diffuse CH and in focal CH respectively. This transcription factor was observed in 65,5±7,4% and 77,3±9,4% of exocrine cells accordingly.
Conclusion: The expression of the studied transcription factors in the endocrine part of the pancreas with any form of CH is significantly higher than in the normal pancreas. The most significant marker of CH is NeuroD1.

PS-13-014
Distribution of sex hormones and lymphocytes in reproductive woman with thyroid papillary carcinoma and Hashimoto's thyroiditis

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Background & objectives: The aim of our study was to analyse the expression of hormone receptors, lymphocytic infiltration and thyreocyte/lymphocyte proliferation index in thyroid papillary carcinoma and in Hashimoto's thyroiditis.
Methods: Study included 115 formalin-fixed and paraffin-embedded tissue material from the teaching, research and diagnostic laboratory of Tbilisi State Medical University. Study material was divided into following groups: normal thyroid gland (n=15), Non-invasive Follicular Thyroid Neoplasm with Papillary-Like Nuclear Features (NIFTP) (n=15), classic papillary carcinoma (CPC)(n=20), follicular variant of papillary carcinoma (FPC) (n=17), cylindric-cell variant of papillary carcinoma (CCPC)(n=9), Hashimoto's thyroiditis (HT) (n=25) and the co-occurrence of Hashimoto's thyroiditis and papillary carcinoma (HTPC) (n=14). Standard immunohistochemistry was used to detect ER, PR, Ki67, CK19, CD56. In addition, lymphocytic infiltration was evaluated in H&E stained specimens.
Results: Study results showed that ER and PR expression is higher in FPC, CCPC and HTPC compared to CPC ($p<0.001$), whilst lymphocytic infiltrate is lower in FPC and CCPC compared to CPC ($p<0.05$). In addition, ER and PR expression is higher in HTPC compared to HT only (<0.001). The thyreocyte/lymphocyte proliferation index is increased in FPC and CCPC compared to CPC and it is also higher in HTPC compared to only HT ($p<0.05$).
Conclusion: Increased expression of hormone receptors may represent the risk factor for the development of thyroid papillary carcinoma and immune regulation plays an important role in this process.

PS-13-015
Morphological, molecular and outcome characteristics of non-invasive follicular thyroid neoplasms with papillary-like nuclear features in a Romanian population: a retrospective, institutional study

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Background & objectives: The aim of our study was to assess the morphological, molecular and outcome characteristics of NIFTPs (non-invasive follicular thyroid neoplasm with papillary-like nuclear features) in a Romanian population.
Methods: All cases of non-invasive encapsulated follicular variant of papillary thyroid carcinoma (EFVPTC) registered at Târgu-Mureş Pathology Department between 2008-2015 with available follow-up data were reviewed by two pathologists and re-classified as NIFTPs in accordance with the WHO 2017 diagnostic criteria. All NIFTP cases were subjected to RT-PCR amplification targeting the BRAFV600E and RAS (KRAS, NRAS, HRAS) somatic mutations.
Results: Our study included 66 cases. More than half of the cases occurred in patients younger than 55 years-old (68.2%), with a significant female predominance (86.4%); the mean tumour size was 28.65±15.29. RAS mutations were identified in 22 (33.3%) cases, with the following distribution: HRAS (11 cases), NRAS (10 cases) and HRAS (1 case). Any NIFTP case was associated with BRAFV600E mutation. The mean follow-up period was 53 months. Most of the patients (n=61 cases, 91.4%) were treated with total thyroidectomy and received RAI (I131 therapy) (90.9%). All cases had a disease-free status at the last clinical assessment, including 5 cases treated with lobectomy only.
Conclusion: RAS mutations are common among NIFTPs, being identified in 1/3 of the cases included in our study, whereas BRAFV600E mutation is absent. Our follow-up data highlight the indolent behaviour of non-invasive EFVPTCs reclassified as NIFTP

PS-13-016
Adaptive alterations of pinealocytes after the long-term influence of heavy metal salts on the body

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Background & objectives: Epiphysis and parathyroid glands take part in the regulation of the adaptive capacity of the body. The aim was to study of morphological and immunohistochemical features of epiphysis's pinealocytes and parathyroid cells under heavy metal salts influence.
Methods: The experiment was conducted on 24 rats aged 5-6 months (1 control and 1 experimental group). Animals received normal drinking water for 30 days after a 90-day exposure to a combination of heavy metal salts: zinc, copper, iron, manganese, lead and chromium. To reveal the neuroendocrine cells, the immunohistochemical study of Chromogranin A, using the rabbit monoclonal antibodies, was performed.
Results: Heavy metal salts cause the morphological and immunohistochemical alterations in all structural components of the epiphysis and parathyroid glands. Perivascular oedema, significant vascular plethora, thickening and impaired permeability of the vascular wall with the formation of diapedesis haemorrhages were observed. The vast majority of pinealocytes had signs of significant cytoplasmic vacuolation with an increase of Chromogranin A expression compared to control animals. The number of neurosecretory cells in the peripheral areas of the gland was especially increased, while the pinealocytes of the control animals were spread evenly throughout the gland. At the same time the amount of parathyroid cells and their Chromogranin A accumulation were decreased.
Conclusion: The change of Chromogranin A expression and amount of pinealocytes and parathyroid cells indicate their disturbed secretory activity, at the same time the evacuation of hormones inside the vessels has impaired as a result of pathological alterations of vascular wall.

PS-13-017
Dyshormonogenetic goiter: a study of 3 cases

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