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an immunohistochemical marker that determines the prognosis has not been detected yet

Methods: 84 cases of clear cell renal cell carcinoma diagnosed between 2008-2015 in our institution were re-evaluated by two pathologists who were blind to outcome. One representative block from of all tumours was selected to perform Bcl2 immunhistochemistry. The immunoreactivity was evaluated semi-quantitatively based on the percentage of positively stained cells (proportion) and also staining intensity.

Results: Our follow-up range was 4-141 months. Statistical analysis revealed that there was an inverse relationship between bcl 2 expression and clinical course. The decreased levels of bcl2 were statistically related with metastasis, shorter disease free survival and shorter overall survival on both univariate and multivariate analysis (univariate analysis p=0.019, p=0.05, p=0.009 respectively, multivariate analysis OR=2.136, 95% CI=0.222–0.625, p= 0.012, HR=1.856, 95% CI=0.034–0.725, p= 0.018, OR=1.552, 95% CI=0.703–0.645, p= 0.06) Kaplan-Meier survival curves revealed statistical significance (p< 0.05) between decreased expression levels and strong and moderate levels.

Conclusion: The role of apoptotic mechanisms in both programmed cell death and tumour formation have not been fully elucidated. There may be compensatory relations that we do not yet know among these complex chain of events.

However, our study may constitute a base for further research in the field of prognostic estimation, as bcl-2 expression is statistically significant with metastasis, recurrence, and overall survival.

PS-18-055

Low-grade oncocytic tumour: retrospective reappraisal of previous diagnosis

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Background & objectives: In 2019, new renal entities were described that include an oncocytic tumour that is CD117 negative and diffusely CK7 and e-cadherin positive, with specific morphologic features. Our aim was to retrieve cases that could fit this new entity.

Methods: We analysed 47 resections and 8 needle core biopsies of renal cell tumours from January/2018 to January/2020. We excluded 7 biopsies and 45 resections based on the incompatible morphology or immunohistochemistry required for this diagnosis. Immunohistochemical panel of CK7, CD117 and e-cadherin was performed, when missing. Clinical history and outcome was examined, when provided.

Results: In the last 2 years, in our institution, we found 3 oncocytic renal cell tumours with inconclusive sub-classification that fit the description for this new entity: Low-grade oncocytic tumour. The 3 selected cases belonged to men between 69 and 72 years old, were unifocal with sizes ranging from 15mm to 60mm, grossly well delimited, with yellow and brown areas. All patients are currently alive and well, one still awaiting surgery. All cases have round to oval nuclei, low Fuhrman grade (1-2), solid/tubular growth pattern, diffuse positivity for CK7 and e-cadherin, and were negative for CD117.

Conclusion: Renal cell oncocytic tumours sometimes show non-specific morphology and immunophenotype leading to inconclusive sub-classifications between multiple renal cell tumours with oncocytic change. This optimization in classification can help reduce diagnostic observer variability and discover potential therapeutic targets or outcome predictors.

PS-18-056

Intraluminal inclusions cause apoptosis in prostate cancer tissue

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Background & objectives: Intraluminal inclusions (IIn) in prostate cancer (PCa) causes the development of inflammation, tumour progression and metastasis. However, their effect on apoptosis remains unstudied.

Objective: To study the influence of intraluminal inclusions on apoptosis of prostate cancer cells.

Methods: 60 PCa samples (group within 30 samples of PCa with IIn (prostatic calculi and corpora amylacea) and group of 30 samples without IIn) were used for study. All samples were examined by hematoxylin-eosin staining and by immunohistochemistry (p53, Bax and Casp3). All data were analysed by Shapiro-Wilk test, Mann-Whitney's U-test and Student's t-test.

Results: We have indicated no significant difference in expression of p53 protein between groups. However, the localization of p53-positive cells was associated with IIn. PCa with IIn had a significant higher expression of Bax (p<0.001) and Casp3 (p<0.001). It may indicate a stimulation of apoptosis by IIn. The intensity of immunostaining was also higher in PCa tissue with IIn.

Conclusion: IIn promote cell injury of PCa cells and modification of cell live cycle. It results in higher level of apoptosis in tumour tissue. This may indicate a adverse effect of IIn on the course and progression of PCa.

PS-18-057

Correlations between different tumour architecture compounds assessed through fractal analysis and tumour cells specific features in prostate adenocarcinoma

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Background & objectives: The authors' aim is to assess the correlations between the main tumour constitutive elements evaluated using the fractal dimension (FD) and three main features of tumour cells in prostate adenocarcinoma (PC).

Methods: 269 fields with different PC architectural patterns were selected then classically and immunohistochemically stained.

Images were binarized. The FD (<1.5="linear-like"-LLD and >1.5="area-like"-ALD distributions) was computed for each binary image. Immunohistochemical stain intensities were assessed through a proprietary computational algorithm.

Tumour cells architecture-GO, tumour stroma architecture-TC, vascular network-VN, the capacity to degrade extracellular matrix-ECMD, intercellular adhesion-ICA and aggressiveness degree-AgD were assessed.

Results: MMP9 intensity trend was smoothly descending as GO evolved towards ALD and ascending as TC evolved towards ALD distribution. PTEN intensity, instead smoothly increased as GO evolved towards ALD and decreased as TC evolved towards ALD.

MMP2 intensity trend was descending as both GO and TC evolved towards ALD.

E-CAD intensity trend was ascending as both GO and TC evolved towards ALD.

MMP9 and E-CAD intensities had no correlation with VN while MMP2 and PTEN had both a smoothly descending trend as VN evolved towards ALD.

Conclusion: Tumour cell behaviour (ECMD, ICA, AgD) is different according to architectural distribution of tumour cells architecture, tumour stroma architecture and vascular network, suggesting a dynamic interrelation between the heterogeneous tumour cell population and tumour microenvironment.

PS-18-058

Correlations between different tumour architecture compounds assessed through fractal analysis and different grading systems in prostate adenocarcinoma

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