ENDOCRINE SOCIETY
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MEETING DATES: APRIL 1–4 ENDOEXPO DATES: APRIL 1–3 ORLANDO, FL

Biomarkers of Pituitary Adenoma Behaviour

Monday, April 3, 2017
01:00 PM - 03:00 PM
OCCC - West Hall B (EXPO Hall)

Poster Number

MON 501

The pathological behaviour of pituitary adenomas (PAs) is complex and difficult to predict. In this study, the proliferation marker, Ki-67, pituitary tumour transforming gene (PTTG), vascular endothelial growth factor (VEGF), cyclin D1, c-MYC and pituitary adenylate cyclase-activating peptide (PACAP) protein expression were analyzed using immunohistochemistry in 74 PA samples (48 non-functional PAs, 26 functional PAs) and correlated with tumour characteristics including size, extension and tumour behaviour patterns.

Correlation of protein marker expression with clinical characteristics yielded significant results. A correlation between PTTG expression and age at diagnosis, tumour size, tumour regrowth and Ki-67 was observed. Cyclin D1 and c-MYC also showed significant correlations with gender, tumour size, age at diagnosis and other protein markers. Significant differences in protein expression in the chosen markers were also observed between different tumour types, between patients treated pre-operatively with somatostatin analogues and in tumours with different intensity on MR imaging). Significant correlations were also observed between the markers themselves, with a possible direct link between two of the studied markers which substantiate data from other in vitro studies. Differences in protein localization were also analyzed to identify possible differences in biological behaviour arising in relation to nuclear vs cytoplasmic localization of the studied biomarkers. VEGF and PACAP similarly appeared interesting but exhibited few statistically significant correlations on detailed analysis.

In conclusion, interesting and novel observations on the differences in expression of tumour markers studied are reported. Specifically, Ki-67 and PTTG appear to be very strongly correlated to tumour regrowth/recurrence and may be considered useful tools in predicting the proliferative potential of the resected tumours. Further data on the differential role of Cyclin D1 and cMYC in pituitary tumorigenesis and possibly tumour prognosis are presented.

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Disclosure

Nothing to Disclose: MG, RF, SF, EF, SA, JD, JV

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