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COMMENT

Comment on ''Pulmonar collision tumor'' and ''Well-differentiated fetal adenocarcinoma''

Comentário a ''Tumor pulmonar de colisão'' e ''Adenocarcinoma fetal bem diferenciado''

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Blanco et al. from Vigo[1] and Ouazzani e al. from Rabat[2] show how Bronchial-Pulmonary Carcinomas are dealt with nowadays. They discuss the cases of a 38 years old woman with a very rare Well Differentiated Fetal Adenocarcinoma (the unique carcinoma referred with a differentiation grade in the WHO 2004 Classification of lung tumors) and a 56 years old man presenting two metastasis of a right maxillary sinus Adenoid Cystic Carcinoma after a gap of 11 years. These two cases are reviewed in parallel with a Pleomorphic Carcinoma of the lung (WHO 2004 – glandular neoplastic proliferation – Adenocarcinoma – with large cells with severe atypical cytology – with pleomorphic elements), which required immunohistochemistry for correct diagnosis and carcinogenic understanding. It is fortunate that surgical specimens give Modern Pathology an open laboratory so that the consequences of carcinogenic stimulation can be understood – nothing happens by chance – and the prognosis arrived at by a combination of morphology, immunostaining, molecular actual validation and pTNM, under the Pathologist's supervision.

Embryology and adult potential stem cells expressions are now recognised as research tools in the interpretation of the histopathology of all benign and malignant tumors and the two examples under consideration, were obviously diagnosed based on fetal mimicking morphology which, together with multiple specific different patterns correlated with different immonohistochemical specificities in the first case, and in the second case, the expressions of *TTF1/NKX*: the latter is a gene related to brain/thyroid/lung embryological development and the *c-kit* gene, which is compromised of stem cells maturity/proliferation which gives a diagnosis between two different carcinomas in the same lung, primary and metastatic.

The above mentioned exercise requested of Pathologists is easily performed on surgical specimens as stated above which means that there is sufficient experience and acquired knowledge to be able to reliably apply well known morphology/patterns and classification language to small biopsies. 70% of the bronchial-pulmonary carcinomas will have disseminated by the time of the diagnosis and biopsies or cytology/cell blocks are available to a certain panel of immunohistochemistry and are up to the standard required for Molecular Pathology.

Everything that has been achieved in the last 50 years based on morphology, electron miocroscopy and immunohistochemistry on bronchial-pulmonary carcinomas now has to be applied to routine Pathology; the Pathologist is expected to recognise acinar, microacinar, papillary, micropapillary,

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solid differentiation or bronchioloalveolar pneumocytes 2 or Clara cells pattern (which used to be called lepidic growth) from large/giant/spindle vimentin expressing cells in pleomorphic/sarcomatoid carcinomas, followed by TTF1 negative expression in carcinomas of smoking patients (without CK5.6 expression) needing *KRAS* mutation search (beyond *EGFR* mutational status) to direct personalized therapy in central/hilum adenocarcinomas, and even deal with a 2 mm^2 biopsy where a secondary origin has to be identified!

References

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