00363 Immunohistochemical Expression of SETD2 Correlates With Aggressive Clinicopathological Features in Malignant Phyllodes Tumours of the Breast

Valerie Koh[1], Aye Aye Thike[2], Li Huihua[2], Gan Lin Rong Rachel[2], Yip Wai Cheong George[1], Bay Boon Huat[1], Tan Puay Hoon[2]

[1]National University of Singapore, [2]Singapore General Hospital

Aims: To determine the protein expression of SETD2 in a series of malignant phyllodes tumours (PT) and to correlate its expression with clinicopathological parameters and clinical outcomes.

Methodology: The study comprises 83 cases of malignant PT diagnosed at the Department of Anatomical Pathology, SGH, from 1992 to October 2017. Tissue microarrays (TMA) were constructed and immunohistochemistry (IHC) performed using antibody to SETD2. Semi - quantitative H - score denoted low (H - score < 100) and high (H - score ⩾ 100) stromal and epithelial expression of SETD2 and was correlated with clinicopathological parameters using X2 or Fisher's exact tests. Local disease - free survival (DFS), disease - specific survival (DSS), and metastasis - free survival (MFS) were estimated using Kaplan - Meier analysis and compared between groups with the log - rank test.

Result: The epithelium was not available in 26 (31.3%) cases. High stromal expression of SETD2 was observed in 25/83 (30.1%) cases, while high epithelial expression of SETD2 was seen in 12/57 (21.1%) cases. High stromal SETD2 expression was significantly associated with marked hypercellularity (p=0.018), high mitotic activity (p=0.033) and permeative tumour borders (p=0.024). High epithelial SETD2 expression was also significantly correlated with high mitotic activity (p=0.024) and permeative tumour borders (p=0.011). A trend for poorer local DFS (p=0.308), DSS (p=0.261) and MFS (p=0.192) was observed for patients with high stromal SETD2 expression, despite lack of statistical significance. There were no associations observed for epithelial SETD2 expression on clinical outcomes.

Conclusion: High expression of SETD2 was found to correlate with aggressive clinicopathological features such as marked hypercellularity, high mitotic activity and permeative tumour borders Although the impact of SETD2 on survival was not statistically significant, a trend could be observed for poorer local DFS, DSS and MFS for patients with high stromal SETD2 expression. These findings suggest a possible involvement of SETD2 in the development of PTs and could be indicative of a poorer prognosis.