

## Nuclear Inverse Polarity Papillary Lesions with Lack Myoepithelial Cells: A Report of Two Cases

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### ABSTRACT

Breast cancer is world-threatening disease. In Japan, it is said that 1 person for 11 people diagnosed breast cancer. Hence, early detection of breast cancer and healthy lifestyle is important. Previous reports have described the occurrence of apocrine lesions with loss of myoepithelial cells however benign. Here we report 2 cases of “non-apocrine” papillary lesions lacking myoepithelial cells associated with interesting immunohistochemistry results and clinico-pathological features. Both papillary lesions were lined by a fibrovascular core and nuclear inverse polarity without nuclear atypia. Loss of myoepithelial cells was observed by H&E, p63 and Calponin stainings. Some reports have indicated that high-molecular-weight cytokeratin (CK) 5/6 and estrogen receptor (ER) immunostainings are important for differentiating benign versus malignant lesions. Moreover, previous report indicate p63 and MUC3 are important for distinguishing between papillary lesions according to the differential index (based on the Allred score) of  $([ER \text{ total score}] + [MUC3 \text{ total score}] / ([CK5/6 \text{ total score}] + [p63 \text{ total score}] + 1))$ . Based on this analysis, our 2 cases had benign lesions. However, for the cell-cycle marker Cyclin-D1, one case was negative, and the other case was about weak 70% positive. Additionally, the Ki-67 index was  $\ll 1\%$  in both cases, and no evidence of disease was observed at least 62 months of follow-up for both cases, despite a lack of additional treatment. Thus, we propose that lack of myoepithelial cells in nuclear inverse polarity papillary lesions do not necessarily indicate malignancy and that the present cases are clinically benign however histologically at the most tumors of uncertain malignant potential. Therefore, we should carefully diagnose the breast papillary lesions even if lacking myoepithelial cells.

**Keywords:** Apocrine lesions, Tumors, Breast papillary lesions, Malignant lesions

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