

The cytological study of the CK14-positive cells and p63-positive myoepithelial cells in the cell clusters of intraductal proliferative lesion of the breast

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【Abstract】

Objective

We studied a usefulness of the Immunostaining using the CK14/p63 cocktail antibody against intraductal proliferative lesion of the breast which diagnosis is indeterminate by cytology.

Study Design

The material consisted of 31 cases of breast lesions including 12 benign cases and 19 malignant cases. These had been diagnosed by histology in Kyushu University Hospital Department of pathology.

These cases were immunostained by CK14/p63 cocktail antibody, and stainability and the distribution of the cell cluster were examined.

Result

In a case of the benign lesion, 4 cases out of 12 showed more than 60% of CK14 positive cells. 8 cases out of 12 showed more than 6 p63-positive myoepithelial cells / ten thousand μm^2 .

In a case of the malignant lesion, all of 19 cases were less than 30% of CK14 positive cells, less than 1.7 p63-positive myoepithelial cells / ten thousand μm^2 of the lesion - the incidence of the number of p63-positive myoepithelial cells was low.

Conclusion

The immunostaining using the CK14/p63 cocktail antibody is useful in the differentiation between the benign lesion and the malignant lesion. However, observation of the cytological findings is important as well as immunostaining for the differential diagnosis.

【Key words】

breast cytology, intraductal proliferative lesion, cell clusters, double immunostaining, p63, myoepithelial cell, CK14 positive cell, mosaic

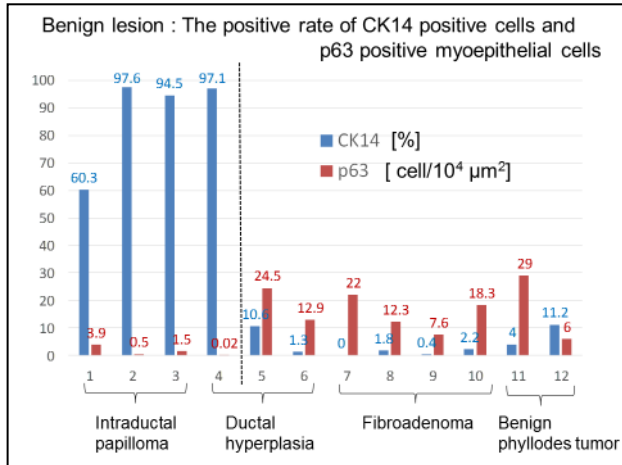


Figure 1. Benign lesion
The positive rate of CK14 positive cells and p63 positive myoepithelial cells.

【Result】
The result of Benign lesion 12 cases

CK14 positive cell	≥ 60%
Intraductal papilloma	3
Ductal hyperplasia	1
Total	4

p63 positive myoepithelial cell	≥ 6 cells/10 ⁴ μm ²
Fibroadenoma	4
Benign phyllodes tumor	2
Ductal hyperplasia	2
Total	8

Figure 2. The result of Benign lesion 12 cases

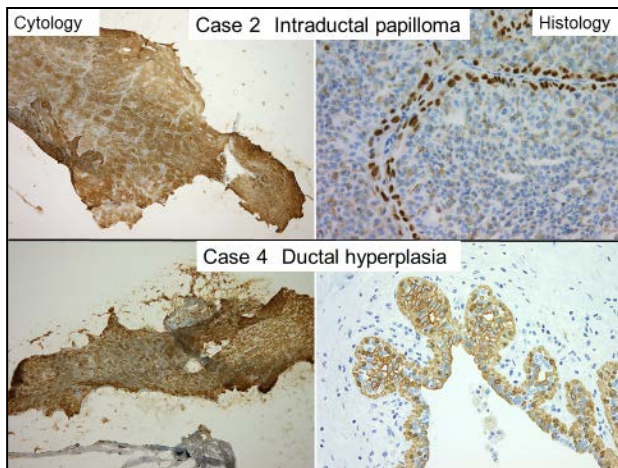


Figure 3. CK14 positive cell : Mosaic pattern
Case 2. Intraductal papilloma(97.6%)
Case 4. Ductal hyperplasia(97.1%)

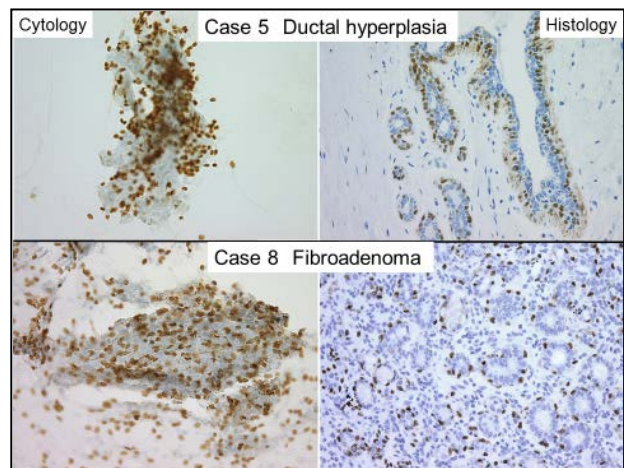


Figure 4. p63 positive myoepithelial cell
Case 5. Ductal hyperplasia(24.5 cells/ 10⁴ μm²)
Case 8. Fibroadenoma(12.3 cells/ 10⁴ μm²)

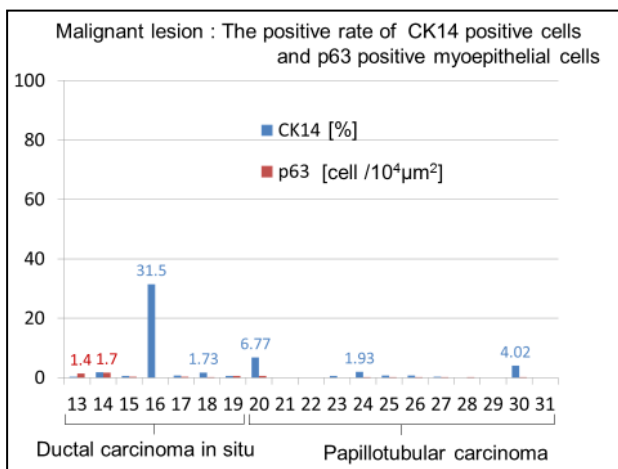


Figure 5. Malignant lesion
The positive rate of CK14 positive cells and p63 positive myoepithelial cells.

【Result】
The result of Malignant lesion 19 cases

CK14 positive cell	≤ 31.5%
p63 positive myoepithelial cell	≤ 1.7 cells/10 ⁴ μm ²

Ductal carcinoma in situ	8
Papillotubular carcinoma	11
Total	19

Figure 6. The result of Malignant lesion 19 cases

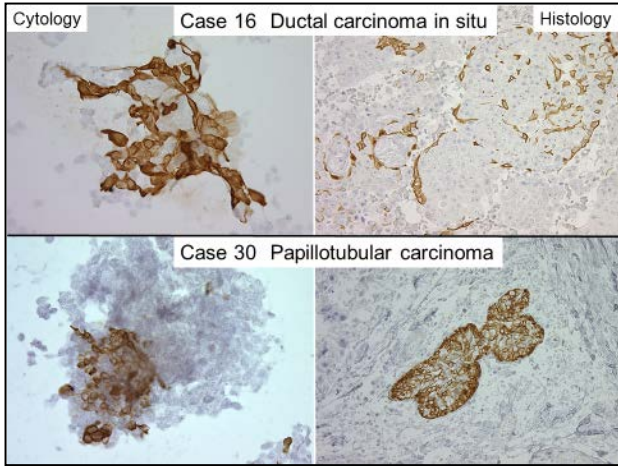


Figure 7. CK14 focal positive(Malignant lesion)
 Case 16. Ductal carcinoma(31.5%)
 Case 30. Papillotubular carcinoma(4.02%)

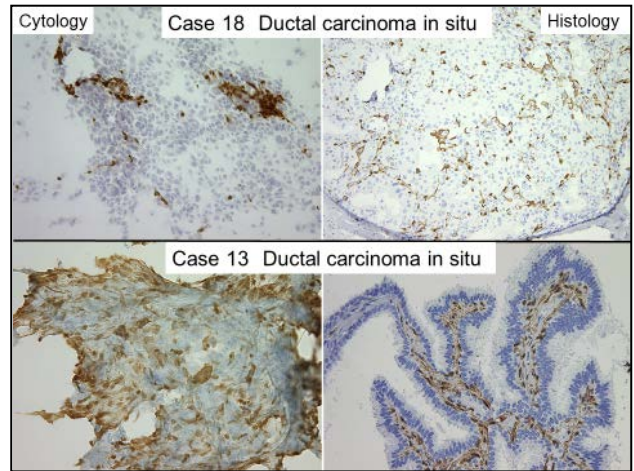


Figure 8. Malignant lesion
 Case 18. Ductal carcinoma in situ A few p63 positive myoepithelial cells. (0.22 cells/ 10⁴μm²)
 Case 13. Papillotubular carcinoma
 Malignant lesion mixed with papillomatosis of benign lesion.

【 Result 】		
	≥ 60% or ≥ 6 cells/10 ⁴ μm ²	< 60% and < 6 cells/10 ⁴ μm ²
Benign lesion	12	0
Malignant lesion	0	19

Figure 9. Result of Benign lesion and Malignant lesion