

Brief Report

Microscopic loss of two-cell-pattern was the golden rule of carcinoma of breast ?

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Through our present case of early carcinoma of breast, we revealed that our histological criteria of complete two-cell-pattern histology, consisted of both epithelial and basal myoepithelial cells, were regarded as benign on the basis of the preservation of its normal two-cell-pattern configuration. This basal myoepithelial cells could be confirmed by α -smooth muscle actin (α -SMA) reagent immunohistochemically. We should pay attention that the complete regular preservation of basal myoepithelial cells was strongly suggested its benignancy and, conversely, the complete loss of ones was also strongly suggested its malignancy. We also used our histological golden rule to any organs having two-cell-pattern in normal counterparts, e.g. salivary gland, mammary gland, and prostate.

Key Words : carcinoma of breast, two-cell-pattern, criteria, malignancy, α -SMA, α -smooth muscle actin, immunostain

Background

Microscopically atypism is one of the golden rules of cancer. But many pathologists believed the histological standard for cancer that the weaker atypism suggests malignancy. This added misunderstanding and confusion to cytological diagnosis based on atypism. We think it is more accurate that cancer could not be neglected even if atypism is weak and the atypism keeps its diagnostic importance in diagnosing malignancy.

On the other hand many pathologists also believed the other microscopic standard of cancer that lost the two-cell pattern, which loses basal myoepithelial cells from bi-layer configuration consisted of superficial epithelial cells and basal myoepithelial cells. This was also supported in cytopathological diagnosis that the myoepithelial loss or the pair cells suggested malignancy. Therefore, the loss of two-cell pattern was regarded as the most reliable finding for carcinoma of breast. In this paper we revealed our diagnosing standard of cancer regarding this disappearance of the two-cell pattern in our case (1).

Case

Female patient aged 47 y/o was performed modified mastectomy. Pathological examination showed the following findings : R, CD, 5 x 5 x 1 cm, ductal hyperplasia with atypical ones, g, ly 0, v 0, stump (-), n (-). Her histological findings were as followings : ①

ductal hyperplasia diagnosed by Hematoxylin-Eosin (HE) stain (Fig.1) and ② atypical ductal hyperplasia : HE stain (Fig.3).

Benign hyperplasia had regular basal cell layer confirmed by immunostaining with α -SMA reagent (Fig.2). We diagnosed the lesion of complete depletion of basal cells as malignancy (Fig.4), previously diagnosed atypical hyperplasia on HE stain.

Although the strong stainability for c-erbB-2 (Her-2) corresponded to its atypism and strongly suggested malignancy, there was no available findings among other immunostaining results (Table 1.). C-erbB-2 (Her-2) was inversely proportional to hormonal receptors, e.g. estrogen receptor (ER) and progesterone receptor (PgR).

Conclusion

In genetic examination we could not reveal any p 53 genomic mutations by polymerase chain reaction-single strand conformational polymorphism method (PCR-SSCP) among borderline malignancies and early carcinomas of breast (2).

Microscopically cell atypism was not enough to diagnose as malignancy, either.

Tissues with two-cell-pattern histology, consisted of both epithelial and basal myoepithelial cells, were regarded as benign on the basis of the preservation of its normal two-cell-pattern configuration. This basal myoepithelial cells could easily confirmed by α -SMA reagent immunohistochemically. We should pay attention that the complete regular preservation of basal myoepithelial cells was strongly suggested its benignancy and, conversely, the complete loss of ones was also strongly suggested its malignancy. But scattered irregular preservation of ones could not support both its benignancy and its malignancy. In routine pathological studies we used this histological golden rule to any organs having two-cell-pattern in normal counterparts, e.g. salivary gland, mammary gland, and prostate (1).

References

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和文抄録

小さな工夫

二相性の消失は乳癌の組織診断の黄金律

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最近の早期乳癌症例を通して、我われの組織学的診断基準である上皮とα-平滑筋アクチン陽性の筋上皮による完全な二相性の保持が良性の根拠となることを示した。逆に、二相性の完全な消失は悪性を示唆する。しかしながら、不完全な消失は診断根拠とならない。更に、この二相性の診断根拠は、他の唾液腺や前立腺の良悪性の診断にも応用される。

キーワード：乳癌、二相性、診断基準、悪性、α-SMA、α-平滑筋アクチン、免疫染色

Table 1 Immunostaining result

Ab/lesion	ductal hyperplasia	atypica hyperplasia, regarded as intraductal carcinoma in the present study
α-SMA	++	—
p53	—	—
Ki-67	5-10%	5-10%
ER	++	++
PgR	++	++
c-erbB-2	—	—

Ab : antibody

SMA : smooth muscle actin

ER : estrogen receptor

PgR : progesterone receptor

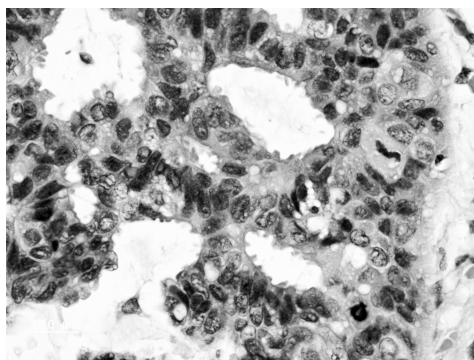


Fig. 1

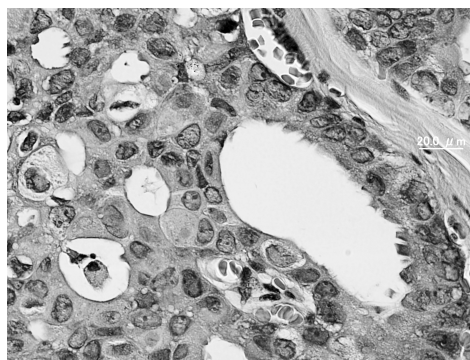


Fig. 3

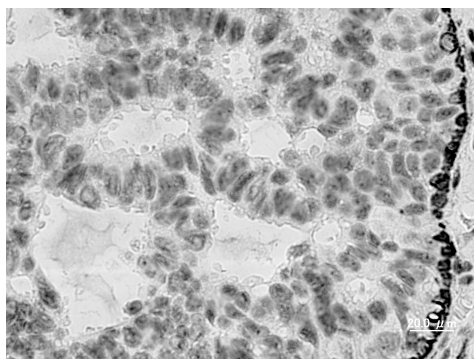


Fig. 2

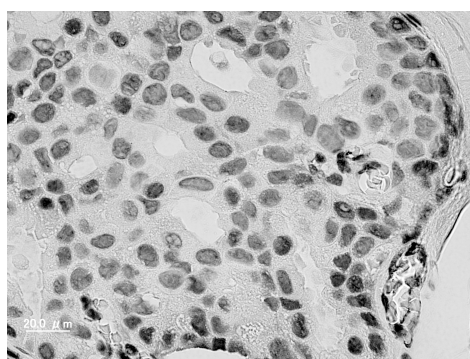


Fig. 4