Concordance in the histopathological diagnosis of fibroadenoma and phyllodes tumor between core needle biopsy specimens and excisional biopsy specimens

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[AIM] To examine the accuracy of the histopathological diagnosis of the phyllodes tumor of the breast in core needle biopsy specimens. [METHODS] From the tumors from which both the core needle biopsy (CNB) and excisional biopsy specimens were available, we consecutively selected 22 cases of fibroadenoma (FA) of and 16 cases of phyllodes tumor. Histopathological findings of these tumor specimens were reviewed by two observers. Furthermore, three pathological findings, i.e. the degree of leaf-like structure (point 0 or 1), cellularity of stromal cell component (point 0 to 3), and cellular atypia of the stromal cell component (point 0 to 3) were examined, and the sum of these points (scores) were calculated for each tumor. The correlation of histological diagnosis with these scores was evaluated. [RESULTS] Histopathological diagnosis was concordant between the CNB and excisional biopsy specimens in 34 tumors (89%), but was discordant in four: from FA to phyllodes tumor in three and from phyllodes tumor to FA in one. The tumors with a score of >=4 or both with a score of 3 and the leaf-like structure in the CNB specimens were defined as the high score group. The tumors with a score of two or less and those with the score of 3 without leaf-like structure in the CNB specimens were defined as the lower score group. Twenty-one and 17 tumors were clarified into the lower and the higher score groups, respectively. A total of 6 tumors (16%), 4 lower score cases and two higher score cases in CNB, were classified into opposite score group in the excisional biopsy specimens. [CONCLUSIONS] By both histopathological diagnosis and the scoring approach, most of the tumors were concordant in the diagnosis or judgment, but 11 to 16 % of tumors showed discordance in diagnosis/judgment between the CNB and excisional biopsy specimens. The cause of such discordance appeared to have derived from intratumoral clonal heterogeneity.