Inter-Observers Variability by Breast Pathologists in the Distinction Between Fibroadenomas with Increased Stromal Cellularity and Phyllodes Tumors


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BACKGROUND
Fibroepithelial lesions with cellular stroma are frequently termed "cellular fibroadenoma" and the criteria for distinguishing them from a phyllodes tumor are vague and subjective. However, the clinical implications and surgical management for these two lesions are usually different.

METHODS
We selected 21 cases of fibroepithelial lesions that were sent in consultation with the differential diagnosis of cellular fibroadenoma vs. phyllodes tumor. One to two representative slides of each case along with patient age was sent to 10 pathologists who specialize in breast pathology. The WHO criteria for phyllodes tumor were included in the study set as well as a diagnosis form which included an "other" category. For the purposes of data reporting, fibroadenoma and cellular fibroadenoma are considered similar.

RESULTS
• Two cases had uniform agreement (Case 4, Case 16)
• In the PT category, subclassification varied from benign to malignant
• The diagnoses ranged from FA to Borderline PT in nine cases
• In 4 cases, the diagnoses were split nearly equally (5/5 or 6/4) between FA and benign PT
• Combining FA and Benign PT reached 100% agreement in 52% (11/21) of cases, and 90% agreement in 81% (17/21) of cases

CONCLUSIONS
• The distinction between a "cellular fibroadenoma" and phyllodes tumor remains difficult.
• Even pathologists who specialize in breast pathology continue to disagree significantly on this distinction, but the decision for further surgical treatment can rest on these subjective criteria.
• There is considerable agreement when "cellular" fibroadenomas and benign phyllodes tumors are distinguished from borderline and malignant phyllodes tumors.
• Further studies are needed to determine if there is a clinically significant difference between "cellular" FA and Benign PT.

ABSTRACT
Background: Fibroepithelial lesions with cellular stroma are frequently termed "cellular fibroadenoma" and the criteria for distinguishing them from a phyllodes tumor are vague and subjective. However, the clinical implications and surgical management for these two lesions are usually different.

Methods: We selected 21 cases of fibroepithelial lesions that were sent in consultation with the differential diagnosis of cellular fibroadenoma vs. phyllodes tumor. One to two representative slides of each case along with patient age was sent to 10 pathologists who specialize in breast pathology. The WHO criteria for phyllodes tumor were included in the study set as well as a diagnosis form which included an "other" category. For the purposes of data reporting, fibroadenoma and cellular fibroadenoma are considered similar.

Results: In only two cases was there uniform agreement as to whether the tumor represented a fibroadenoma or phyllodes tumor (one case each). In nine cases, the diagnoses ranged from fibroadenoma to borderline phyllodes tumor. In four of these cases, more than one pathologist made the diagnosis of borderline phyllodes tumor. In four cases the diagnoses were split nearly equally (5/5 or 6/4) between fibroadenoma and benign phyllodes tumor. If the diagnoses of fibroadenoma/cellular fibroadenoma and benign phyllodes tumor were combined and separated from the borderline and malignant phyllodes tumors, there was 100% agreement in 52% of cases (11/21) and 90% agreement in 81% of cases (17/21).

Conclusions: The distinction between a cellular fibroadenoma and a phyllodes tumor remains difficult. Even pathologists who specialize in breast pathology continue to disagree significantly on this distinction, but the decision for further surgical treatment can rest on these subjective criteria. However, there is considerable agreement when cellular fibroadenomas and benign phyllodes tumors are distinguished from borderline and malignant phyllodes tumors. Further studies are needed to determine if there is a clinically significant difference between cellular fibroadenomas and benign phyllodes tumors since this distinction is apparently not reproducible.