Phyllodes Tumor vs Fibroadenoma: Diagnosis and Management

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Case Presentation

History:

- 68 year old woman presented with enlarging painful breast mass.
- Patient underwent menopause at 52, no use of exogenous estrogen
- Patient previously had multiple fibroadenomas excised 15 years before her current presentation.

Workup and Management:

- Mammogram and breast ultrasound revealed enlargement of the previous left breast mass from 2.8cm to 4.7cm.

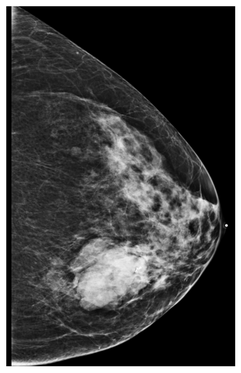
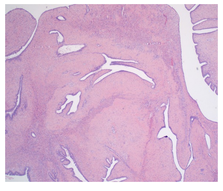
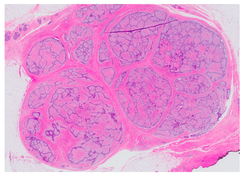


Figure 1. Mammogram of left breast

- Core biopsy revealed a "fibroepithelial neoplasm with areas of hypercellular stroma and occasional stromal mitotic figures most consistent with phyllodes tumor"
- She underwent a lumpectomy with re-excision of the cavity's margins
- Surgical Pathology Results:
  - Negative margins
  - Histology: "benign, well-demarcated tumor with *mildly pleomorphic spindled cells in the stroma and up to 1 per 10 mitoses per high powered field*"
  - ○ Patient was followed every 6 months with imaging. At 2 years patient was without recurrence.

	Phyllodes Tumor	Fibroadenoma
Typical Age of Patients at Diagnosis	35-55 years[3]	15-35 years[1]
Gross Pathology	round, oval, with gray-white appearance very similar to fibroadenomas; grow continually	well circumscribed, round, firm, white-tan to gray homogenous color, grow up to 2-3cm
Microscopic Apperance	elongated cleft-like space with papillary projections of epithelial-lined stroma[6]	biphasic proliferation of both stromal and epithelial components[7]
Histology	stromal hypercellularity, atypia or mitotic activity[6,7]	diffuse myxoid change, hyalinization, increased cellularity, less mitotic activity than phyllodes tumors[7]
Molecular characteristics	low epithelial-related and high proliferation-related gene expression[5]	high epithelial-related and low proliferation-related gene expression[5]
Pathology Images	 Phyllodes Tumor, with leaf-like architecture	 Benign Fibroadenoma[4]

Treatment Options

- Providers often favor full excision biopsy over active surveillance
  - ○ Excisions have become the default diagnostic preference
  - ○ Patients undergo potentially cosmetically disfiguring surgery to discover their lesion was benign
- A 2020 retrospective pathology study on excised fibroepithelial lesions revealed that 198 (98%) of samples were benign[2].
- If adequate surgical margins cannot be achieved by complete mastectomy or axillary surgery, adjuvant radiation therapy is recommended and has been shown to be effective in reducing local recurrence.
- Using chemotherapy to treat is controversial and only recommended in patients with excellent functional status and minimal comorbidities

Conclusions

- Phyllodes tumors are extremely rare and are often mistaken for fibroadenomas:
  - ○ 2.5% of fibroepithelial lesions
  - ○ 0.3-1.0% of all primary breast tumors[7]
- This patient was diagnosed with phyllodes tumor at an advanced age with benign disease; although older age is more often associated with increased histologic grade.
- Borderline and malignant tumors are more likely to recur within two years of resection; there is less data on recurrence rates of benign tumors.
- Phyllodes tumors should be suspected with rapid growth of a known fibroadenoma.
- Core biopsy should be performed rather than fine needle aspiration for accurate diagnosis.
- It is crucial that uncommon pathologies are diagnosed correctly so that patients receive appropriate surveillance treatment.
- Depending on a patient's case, management can include active surveillance (may be preferable by a younger patient for cosmetic reasons) vs full excision biopsy (needing radiation or chemotherapy only if recurrent or large >10cm)

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