Outcomes of Surgical Treatment of Pleomorphic Lobular Carcinoma In Situ of the Breast

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Background
Pleomorphic lobular carcinoma in situ (PLCIS) is an uncommon high grade in situ carcinoma first described as a distinct entity about 20 years ago. It is thought to be the in situ analogue of invasive pleomorphic lobular carcinoma. PLCIS shares some features of classic lobular carcinoma in situ, namely discohesion and absence of e-cadherin expression. Due to its rarity there is limited data on the natural history of pure PLCIS and no evidence-based consensus guidelines for management.

Objectives
The aims of this study were to
1. Evaluate upgrade rates at surgical excision following a CNB diagnosis of PLCIS and

Presentation
- Mean age 57.6 (range 48-74) years
- All cases identified by screening mammography as
  - Calcifications (72.2%)
  - Asymmetric density (22.2%)
  - Both (5.6%)
- US showed a hypoechoic mass in 5 of 8 cases with a mammographic density
- 15 patients were diagnosed with PLCIS on CNB, while 3 additional cases were diagnosed on final surgical pathology.

Hormone Receptor Status of PLCIS
- Hormone receptors analyzed in 15 patients
  - 93.3% Estrogen receptor (ER) Positive
  - 73.3% Progesterone receptor (PR) Positive
  - 6.7% ER and PR Negative

Treatment
- 18 patients with PLCIS were treated with wide local excision (WLE) and mastectomy and adjuvant therapies as shown below

Conclusions
- Of 11 patients treated with WLE 2 patients (18%) recurred after mean 1u of 47 (range 1.6 to 162) months.
- One patient with ER/PR negative PLCIS recurred with PLCIS 16 months postop after prior margin-positive WLE and adjuvant raloxifene for PLCIS.
- One patient recurred with invasive lobular carcinoma 87 months postop after prior margin-negative WLE and adjuvant radiotherapy for PLCIS.

Patients & Methods
- We queried our prospectively maintained breast surgery and pathology databases for patients with a preoperative core needle biopsy (CNB) or surgical pathology diagnosis of PLCIS between 06/2004 and 07/2017.
- Patients with concurrent invasive cancer or ductal carcinoma in situ were excluded.
- Patient characteristics, imaging, tumor, treatment and outcome data was verified by electronic medical record review.
- We analyzed the incidence of upstaging to invasive disease and recurrence after various methods of surgical and adjuvant treatment.

Histopathology
PLCIS is characterized by higher degrees of pleomorphism than classic LCIS. Frequently it can involve large ducts and be associated with comedo-type necrosis (A). On higher power, one can appreciate the significant nuclear pleomorphism and discohesion of the tumor cells (B). As in the classic variant, e-cadherin expression is frequently lost in cases of PLCIS (C).

Upstage Rate for PLCIS on CNB
- 11 patients treated with WLE
  - 10 final margins negative (1 reexcised for positive margins on initial excision)
  - 1 with single focal final positive margin
  - 7 patients treated with mastectomy
  - 7 final margins negative

Reurrence
- For PLCIS on preoperative CNB, the upgrade rate to invasive cancer at operation was 20%.
- Outcomes were excellent following surgical treatment with negative pathologic margins after WLE with only 1 recurrence as invasive disease 87 months postop.
- We also observed 1 recurrence as PLCIS in the only patient with margin-positive WLE suggesting there may be a benefit to margin negative resection.
- Longer term follow-up is needed to further define optimal treatment strategies for this uncommon lesion.