Poster ID: 756513

Ipsilateral concurrent breast cancer and atypical ductal hyperplasia: Does atypia also need excision?

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BACKGROUND

- NCCN guidelines recommend surgical excision of atypical ductal hyperplasia (ADH) identified on percutaneous biopsy.
- Upgrade from ADH to breast cancer is identified in 10-30% in contemporary studies.
  - Multiple studies have identified patients with lowest risk of ADH upgrade, who can be offered observation and chemoprevention over surgical excision
- The rate of upgrade of ADH with concurrent ipsilateral breast cancer is unknown, as prior studies excluded these patients.

PURPOSE / AIM / HYPOTHESIS

- Assess the upgrade rate of ADH when an ipsilateral breast cancer is present.
- Identify a low risk population where it is safe to consider observation over excision for the site of ADH.

METHODS

- A single institution retrospective study identified women with both breast cancer and a separate site of ADH in the same breast on percutaneous biopsy who underwent excision of both sites from 2008-2018.
- Imaging characteristics and pathologic features were reviewed from the percutaneous biopsy and final pathology at the ADH site to determine upgrade.
- Women who had ADH upgrade to cancer at surgery versus women who had ADH without upgrade at surgery were compared to determine differences.
- Chi-square and Fisher's exact tests were used to describe and test for association between categorical variables. T-test and Wilcoxon tests were used to describe and test for association between continuous variables.

RESULTS

Patient Population & Upgrade Rate (Table 1)

- 62 women met inclusion and exclusion criteria
- Rate of upgrade at the site of ADH was 17.7% (DCIS n=9, IBC n=2)

	Entire cohort N=62 (%)	ADH upgrade N=11 (17.7%)	No ADH upgrade N=51 (82.3%)	p-value
Surgery type				0.38
Mastectomy	35 (56.5)	7 (63.6)	28 (54.9)	
Lumpectomy-single	11 (17.7)	3 (27.3)	8 (15.7)	
Lumpectomy-multiple	16 (25.8)	1 (9.1)	15 (29.4)	
Clinical tumor size (cm, mean, std)	2.0 (1.8)	2.6 (2.6)	1.9 (1.6)	0.12
Cancer Histology				**0.03**
IDC/ILC	**45 (72.6)**	**5 (45.5)**	**40 (78.4)**	
DCIS	**18 (29)**	**6 (54.5)**	**12 (23.5)**	
DCIS present with IDC (n=45)	26 (57.8)	4 (80.0)	22 (55.0)	0.38
Histologic tumor grade				0.91
I	20 (32.2)	3 (27.3)	17 (33.3)	
II	33 (53.2)	6 (54.5)	27 (52.9)	
III	9 (14.5)	2 (18.2)	7 (13.7)	
Prognostic markers				
ER+	54 (87.1)	9 (81.8)	45 (88.2)	0.30
HER2+ (n=43)	3 (7.0)	0	3 (7.9)	1.0

Table 1. Patient population and upgrade rate

Risk Factors for Upgrade (Table 2)

- Features associated with increased risk for upgrade included:
  - Ipsilateral DCIS compared to invasive breast cancer (p=0.03)
  - Ultrasound-guided biopsy at the site of ADH compared to stereotactic or MRI guided biopsy (p=0.02)
  - ADH with individual cell necrosis compared to no necrosis (p=0.04)

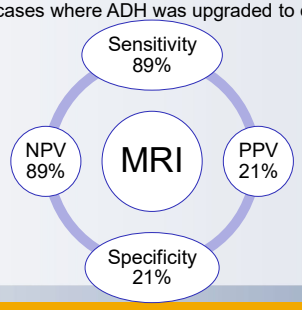
	Entire cohort N=62 (%)	ADH upgrade N=11 (17.7%)	No ADH upgrade N=51 (82.3%)	p-value
Proximity of ADH to cancer (cm, std)	4.6 (2.4)	4.4 (2.3)	4.6 (2.5)	0.40
ADH radiographic size (cm, std)	1.8 (2.1)	1.0 (0.4)	1.9 (2.2)	1.0
Biopsy modality of ADH				**0.02**
Stereotactic	21 (33.9)	1 (9.1)	20 (39.2)	
US	**21 (33.9)**	**8 (72.7)**	**13 (25.5)**	
MRI	20 (32.3)	2 (18.2)	18 (35.3)	
ADH characteristics				
≥3 foci (extensive)	16 (25.8)	4 (36.4)	12 (23.5)	0.46
Micropapillary features	4 (6.7)	0	4 (7.8)	1.0
Individual cell necrosis	**5 (8.3)**	**3 (27.3)**	**2 (3.9)**	**0.04**

Table 2. Risk factors for upgrade

RESULTS

MRI Upgrade Prediction

- Preoperative MRI (n=47, 76%) demonstrated enhancement at the site of ADH in 81% (n=38)
  - 8/9 (89%) of cases where ADH was upgraded to cancer had enhancement



DISCUSSION

- Ipsilateral invasive breast cancer is not a significant risk factor for upgrade of ADH.
- Women at lowest risk for upgrade include those with stereotactic biopsy at site of ADH and those without individual cell necrosis associated with ADH (0% upgrade rate).
- If breast conservation is desired for management of the ipsilateral breast cancer, consideration can be made for omission of excision at the site of ADH for low risk patients.
  - Multidisciplinary review to identify women with lowest risk features is recommended.
  - Breast MRI may be a valuable tool to identify low risk of underlying malignancy (high sensitivity and NPV).

ACKNOWLEDGEMENTS

This abstract is a summary of my thesis for my master in clinical research at the University of Kansas Medical Center. A special thanks to my thesis chairwoman Dr. Sue Min Lai for her support and guidance.