Surgical Approach to LCIS

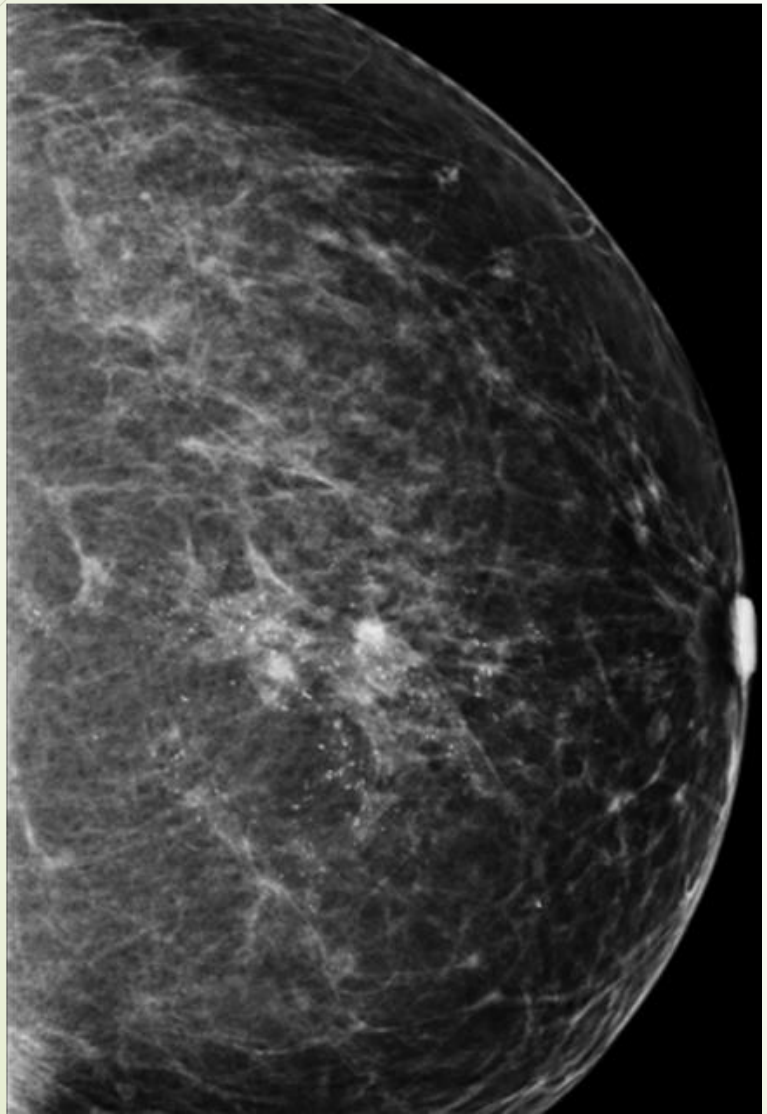
Dr Ahmad elahi

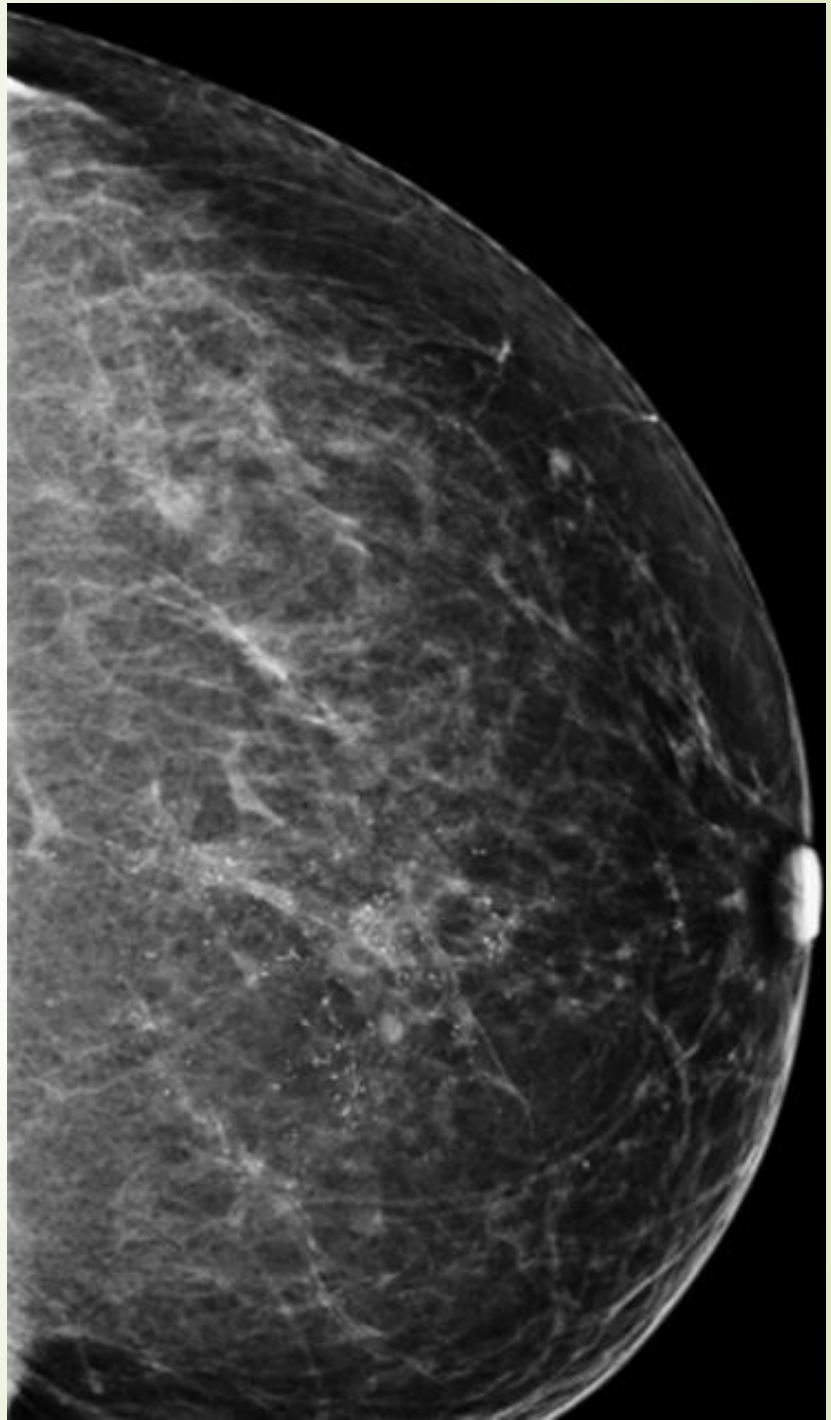
Fellowship of Breast Surgical Oncology

Case1

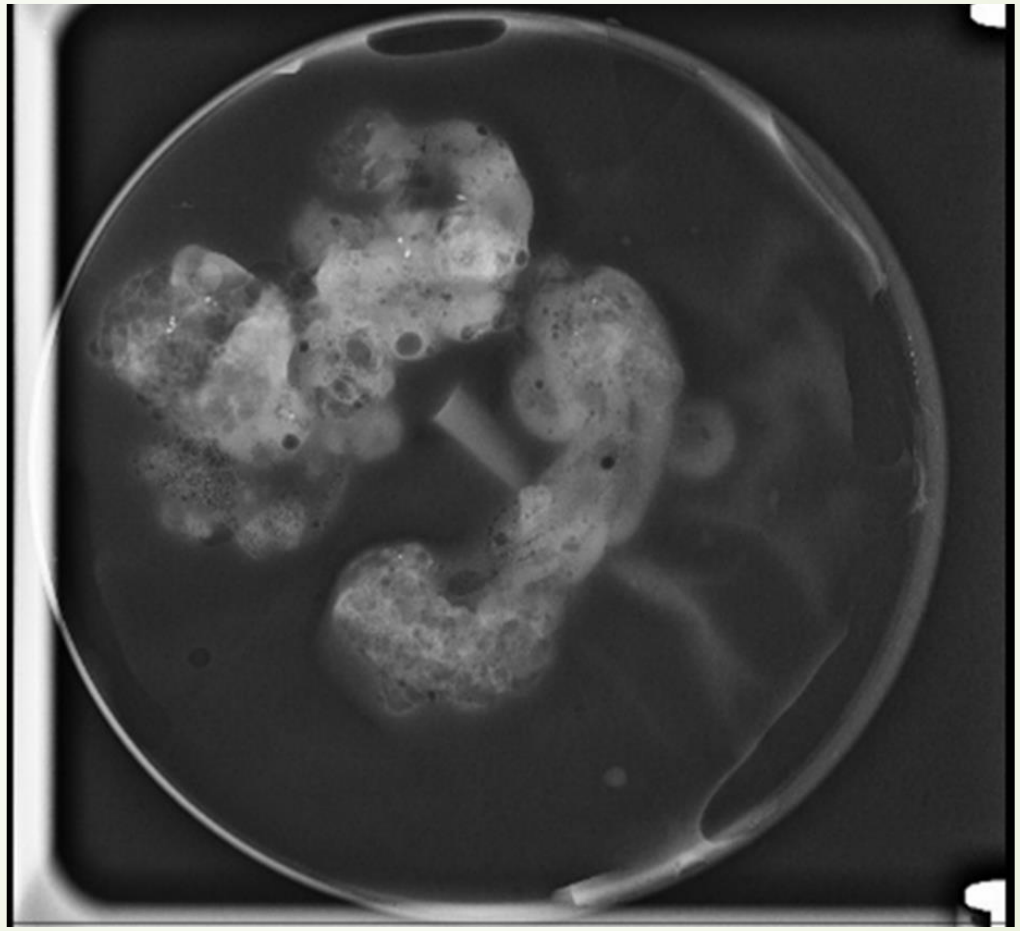
- 60 yrs female, G3 P2 L2 Ab1, Milking 2 yr, FH+ (sister 40 yrs, 2nd degree 40 yrs)
- PMH: Hypophysis adenoma (Gaberculine 1 yr), Hx abdominoplasty
- PE: Breast NL, cup D , LN free
- Screening MG: Lt pleomorphic Calc LIQ - lower central & LOQ , B4
- US: Lt 6oc MZ mass 15*10mm , B4c
- MRI after VAB: No discrete mass

MG (CC-MLO)





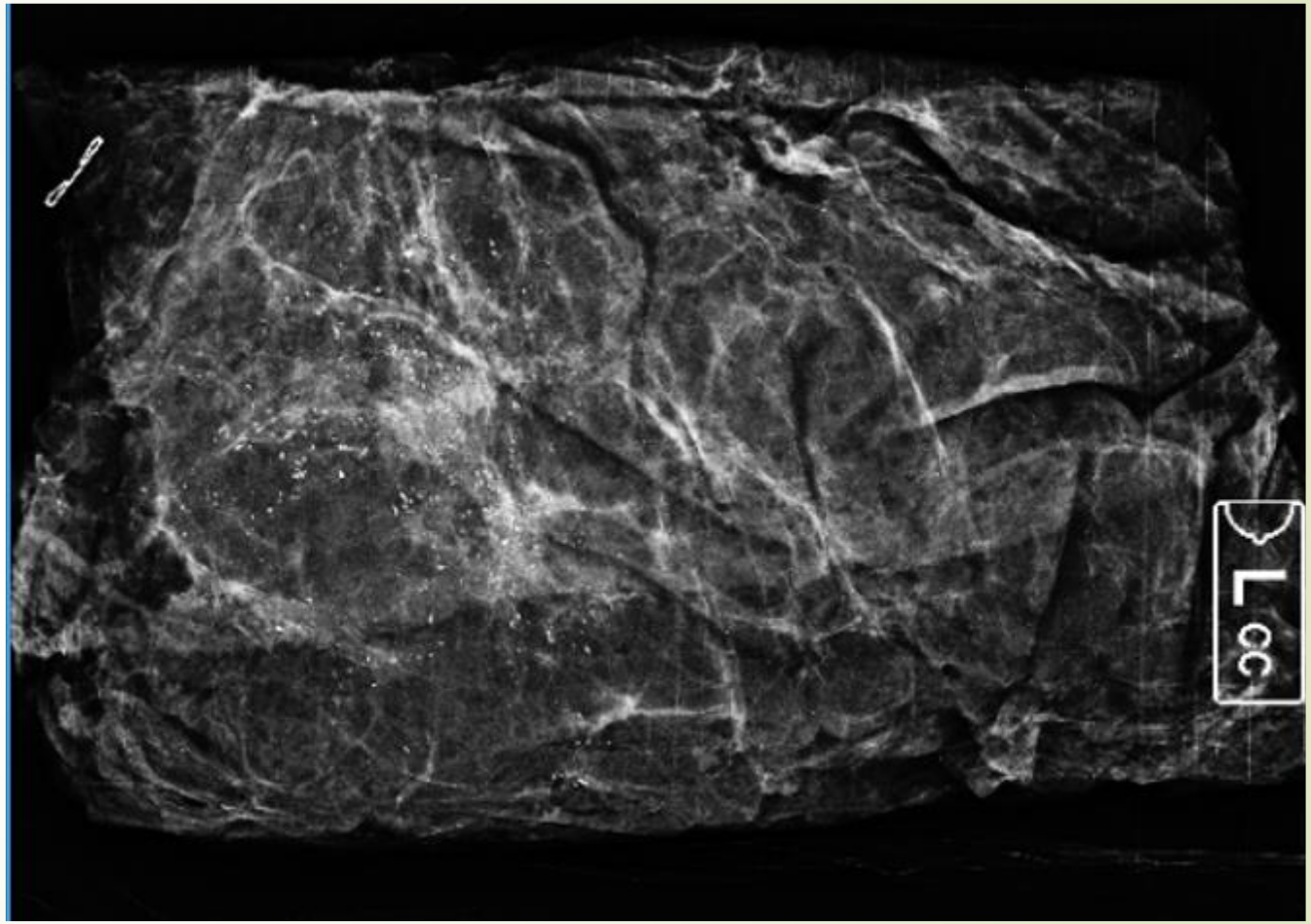
- VAB: LCIS , G1, ER+, Beta catenin neg



Other center prescribe Tamoxifen for her

- Surgery Bilateral reduction mammoplasty & mastopexy

- Specimen MG



- Pathology: ILC 2 foci (20mm & 5mm), G2, LVI+, margin free (25mm), ER 80% , PR neg, Her2 neg, ki67 10-12%-- LCIS present (review patho: LCIS touch to Upper inner margin)

- 2nd surgery: Lt SLNB 0/2
- She refer to systemic therapy

- Genetic test (after invasive component detection) : Lynch syn

Case2

- 58 yrs female, G 2, P 2, L 2, Ab 0, FH neg
- Screening MG – 1396: Rt & LT breast asymmetry,
- US : Rt 15*7mm, Lt 15*11hypoechoic mass B4a
- MRI : B3
- Bilat CNBx: **LCIS**
- Pathology of Rt & LT Wire excision: **ALH**, CK14+, E-Cad neg, P63+

Fallow up:

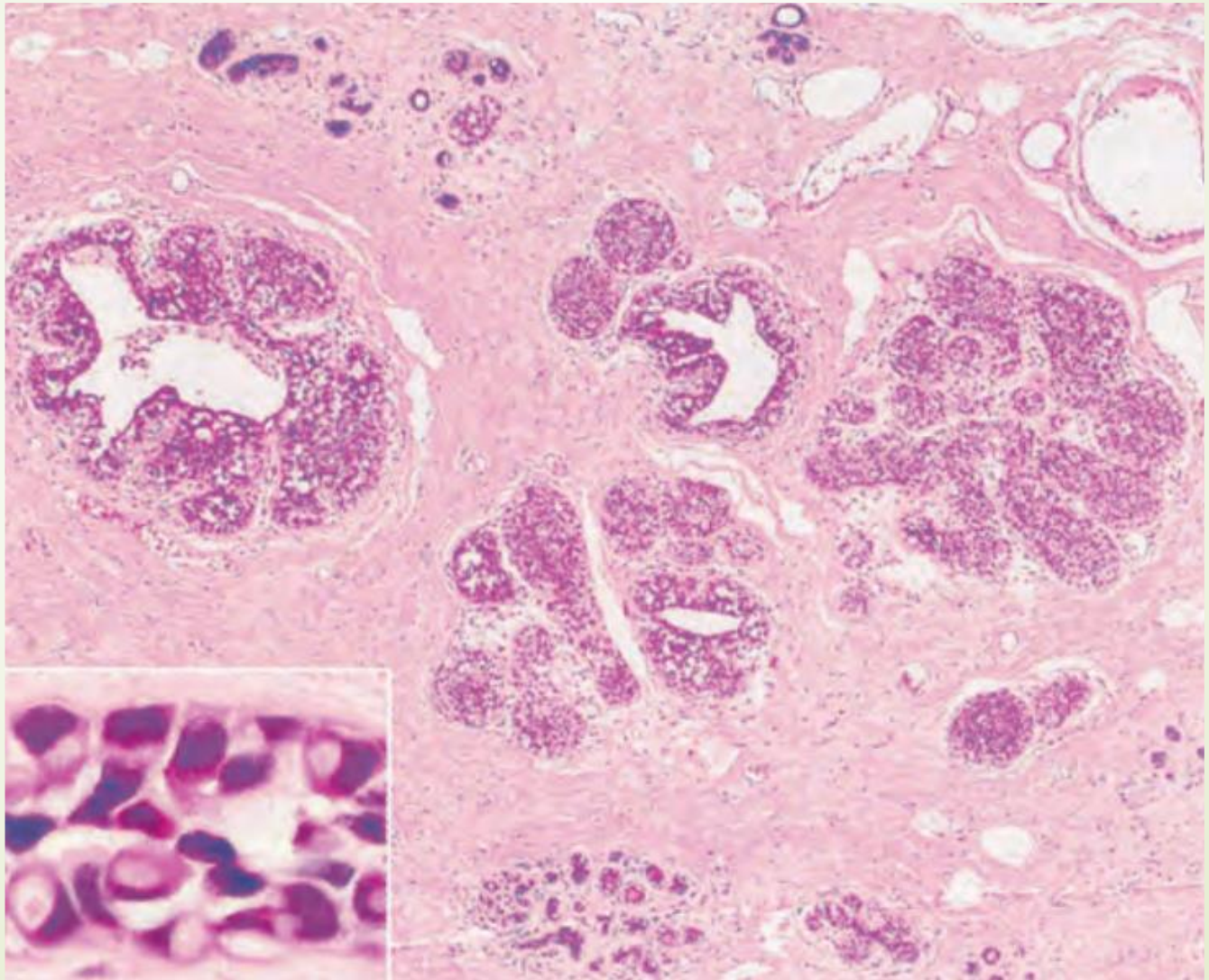
- Breast awareness, breast exam every 6 months (&US)
- Annual MG & q3 yrs MRI
- Annual MRI
- Tamoxifen 5 yrs

Case 2 continue

- Question:

Is there any benefit to continue Tamoxifen?

LCIS



American Joint Committee on Cancer (AJCC)
TNM Staging System For Breast Cancer

- In the **8th edition** of the American Joint committee on Cancer (AJCC) staging system, LCIS was removed.

*Note: Lobular carcinoma *in situ* (LCIS) is a benign entity and is removed from TNM staging in the AJCC Cancer Staging Manual, 8th Edition.

Continued

LCIS:

- The **first description:** by Ewing in 1919, "atypical proliferation of acinar cells" of the breast…
- In 0.5% to 3.8% of benign biopsy specimens
- Mostly diagnosed in aged **40 to 55 yrs**…
- **Four-fold increase** in incidence in1970s to 2009.
- < 5% of are **pleomorphic** or **florid**.
- Never seen in association with true Paget's disease of the nipple

Risk of breast cancer development

- LCIS is often (> 50%) **multifocal**, one-third are **Bilateral…**
- Cumulative long-term **risk of breast cancer development** 1% to 2% per year… (both breast)
- Developing cancers equal number of IDCs and ILCs …
- Relative risk in comparison to general population:

  - ALH : 4-5 fold

  - LCIS: 8 to 10 times…

Variants of LN

- Incluing: **apocrine, histiocytoid, rhabdoid, endocrine, amphicrine**, and the **apocrine PLCIS** variant …
- **Lobular intraepithelial neoplasia (LIN):** LIN 1, LIN 2, LIN 3, with LIN 3 representing the PLCIS end of the spectrum
- **Classic forms of LN**: ER+ breast cancer (luminal A)
- **PLCIS**: no or low levels of ER and PR expression, and frequently HER2 positive, and high Ki67…
- **Florid** LCIS (FL-LCIS)
- Carcinoma in situ with **mixed ductal and lobular** features (CIS-MDL

TABLE 22-2

Summary of Immunohistochemical Marker Status

	LN (ALH/ LCIS)	*ILC*	*Low-Grade DCIS*	*Low-Grade IDC*	*PLCIS*	*Pleomorphic ILC*	*High-Grade ER+ DCIS*	*High-Grade ER+ IDC*
ER	+	+	+	+	+/–	+/–	–/+	–/+
PR	+	+	+	+	+/–	+/–	–/+	–/+
HER2	–	–	–	–	–/+	–/+	+/–	+/–
E-cadherin	Negative[a]	Negative[a,b]	Membranous	Membranous	Negative[a]	Negative[a]	Membranous	Membranous[d]
β-catenin	Negative[c]	Negative[c]	Membranous	Membranous	Negative[c]	Negative[c]	Membranous	Membranous
p120 catenin	Cytoplasmic	Cytoplasmic	membranous	Membranous	Cytoplasmic	Cytoplasmic	Membranous	Membranous
GCDFP-15	–/+	–/+	–/+	–/+	+/–	+/–	–/+	–/+
p53	–/+	–/+	–/+	–/+	+/–	+/–	+/–	–/+
Ki-67	Low	Low	Low	Low	Intermediate/ High	Intermediate/ High	High	High

[a]Abnormal patterns can occasionally be seen in the form of discontinuous or fragmented staining or cytoplasmic "dots."
[b]Up to 15% of cases display E-cadherin membranous expression.
[c]Despite the lack of β-catenin membranous expression, nuclear expression is vanishingly rare in LN and PLCIS.
[d]Approximately 10% of cases may lack membranous E-cadherin expression (87).
ALH, atypical lobular hyperplasia; IDC, invasive ductal carcinoma; ILC, invasive lobular carcinoma; LCIS, lobular carcinoma *in situ*; DCIS, ductal carcinoma *in situ*; PLCIS, pleomorphic LCIS; ER, estrogen receptor; PgR, progesterone receptor; GCDFP-15, gross cystic disease fluid protein-15; LN, lobular neoplasia; –/+, often negative though sometimes positive; +/–, often positive though sometimes negative.

Surgical Considerations

LN in CNBx:

The **upgrade rate** between core biopsy of and excision:

- **Classic LCIS :** 1%
- **Pleomorphic LCIS and florid LCIS:** 45% (18-100%)

Recommendation:

- **ALH** or **classic LCIS** that are not surgically excised, short-term mammographic follow-up is recommended
- **PLCIS** : routine excision advised (upgrade rates 25%)

LN in Surgical Excision:

Classic LCIS:

- Does **not** require further surgical intervention
- There is **no** indication to document margin status in a specimen that contains only LN

PLCIS & Florid LCIS:

- **Complete excision** of the mammographic lesion is recommended (suspicious calcifications)
- A positive **margin** should be re-excised
- Half the recurrences are invasive (57%)

NCCN Panel recommends

Classic LCIS or ALH that is **concordant with imaging**:

- Physical exam with or without imaging for 6 to 12 months
- Risk reduction therapy

LCIS/ALH that is **<u>non</u>concordant with imaging:**

- Surgical excision

Multiple-foci LCIS (>4 TDLU on CNBx) increased risk .

Pleomorphic LCIS:

- Surgical excision.

Margin evaluation in LN

The 5-year rate of **local recurrence**:

- LCIS at the margin: 6%
- LCIS away from the margin: 1%

WHO recommends that margin status be reported in PL-LCIS and FL-LCIS

The presence LN in margin of resection:

- **LCIS**: not significantly associated with local recurrence…
- **PLCIS:** a positive margin should be re-excised

Margin (NCCN)

	No ink on tumor	2-mm margin	No margin necessary
Invasive breast cancer	X		
Invasive breast cancer + DCIS	X		
Invasive breast cancer + extensive DCIS	X		
Pure DCIS		X	
DCIS with microinvasion		X	
Pure LCIS* at surgical margin			X
Atypia at surgical margin			X

*For pleomorphic LCIS, the optimal width of margins is not known.

ASBS: Indications for surgical excision LCIS & ALH

Upgrade rate <5% (No advocation of routine excision)

- small volume lobular neoplasia
- imaging-pathologic concordance.

MD Anderson- surgical excision is recommended in:

- cases of discordance
- for targeted versus incidental lesions,
- in cases with fewer cores taken,
- for mass lesions.
- Pleomorphic, (necrosis, signet ring, or apocrine).

Surveillance (ASCO & NCCN)

beginning at the age of diagnosis

- Breast **awareness**
- **Clinical breast exam** (CBE) every 6 to 12 months
- Annual **mammography**, consider of **tomosynthesis** (not less than 30 years of age)
- Annual **MRI** (not before age 25, not supported by American Cancer Society- ACS)

NCCN: Consider annual MRI screening for individuals with LCIS/ALH and ≥20% residual lifetime risk

National Comprehensive Cancer Network®

NCCN Guidelines Version 1.2022
Breast Cancer Screening and Diagnosis

NCCN Guidelines Index
Table of Contents
Discussion

SCREENING OR SYMPTOM CATEGORY[a]	SCREENING/FOLLOW-UP
Increased Risk:	
5-year risk of invasive breast cancer ≥1.7% in individuals ≥35 y (per Gail Model)[i] →	• Clinical encounter[b,d,k] every 6–12 mo ▸ To begin when identified as being at increased risk by Gail Model • Annual screening[b] mammogram.[c,m] Tomosynthesis is recommended, if available[o] ▸ To begin when identified as being at increased risk by Gail Model • Consider risk reduction strategies (See NCCN Guidelines for Breast Cancer Risk Reduction) • Breast awareness[l]
ADH[r] or Lobular neoplasia (LCIS/ALH) and ≥20% residual lifetime risk →	• Clinical encounter[b,d,k] every 6–12 mo ▸ To begin at diagnosis of ADH or lobular neoplasia (LCIS/ALH) • Annual screening[b] mammogram.[c,m] Tomosynthesis is recommended, if available[o] ▸ To begin at diagnosis of ADH or lobular neoplasia (LCIS/ALH) but not prior to age 30 y • Consider annual breast MRI[b,p] ▸ To begin at diagnosis of ADH or lobular neoplasia (LCIS/ALH) but not prior to age 25 y ▸ Consider contrast-enhanced mammography[b] or whole breast ultrasound[b] for those who qualify for but cannot undergo MRI • Consider risk reduction strategies (See NCCN Guidelines for Breast Cancer Risk Reduction) • Breast awareness[l]

Chemoprevention

- Among high risk women, **tamoxifen** decreased the risk of developing invasive breast cancer by 49%.
- **Raloxifene** has equal effect in postmenopausal women.
- **Exemestane** reduced the risk by 65% in postmenopausal
- **PLCIS**: mostly ER+,(potential role of chemoprevention)

ASCO recommended:

- **Tamoxifen**: 5 years for high-risk premenopausal women (reduce the risk of ER-positive invasive breast cancer)
- **Raloxifene:** for postmenopausal women.

Risk-Reducing Surgery

- Aggressive surgical therapy for LCIS (Bilateral total mastectomy) not recommended at now

- Bilateral prophylactic mastectomy (**BPM**) may be a reasonable option for a subset of women with LCIS and other risk factors, such as:

  - strong **family history**

  - extremely **dense breasts**.

Role of Radiation in the setting of breast conservation

- Between institutions: 19 of 92 patients (20.6%) received radiation therapy(range 0-38%)
- Recurrences with radiation: rare (1 of 13)
- From six studies of PL-LCIS with follow up, only one institution never offered radiation therapy (De Brot et al)

The END