



Breast Atypia Surgical Management

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No conflict of interest



Atypia

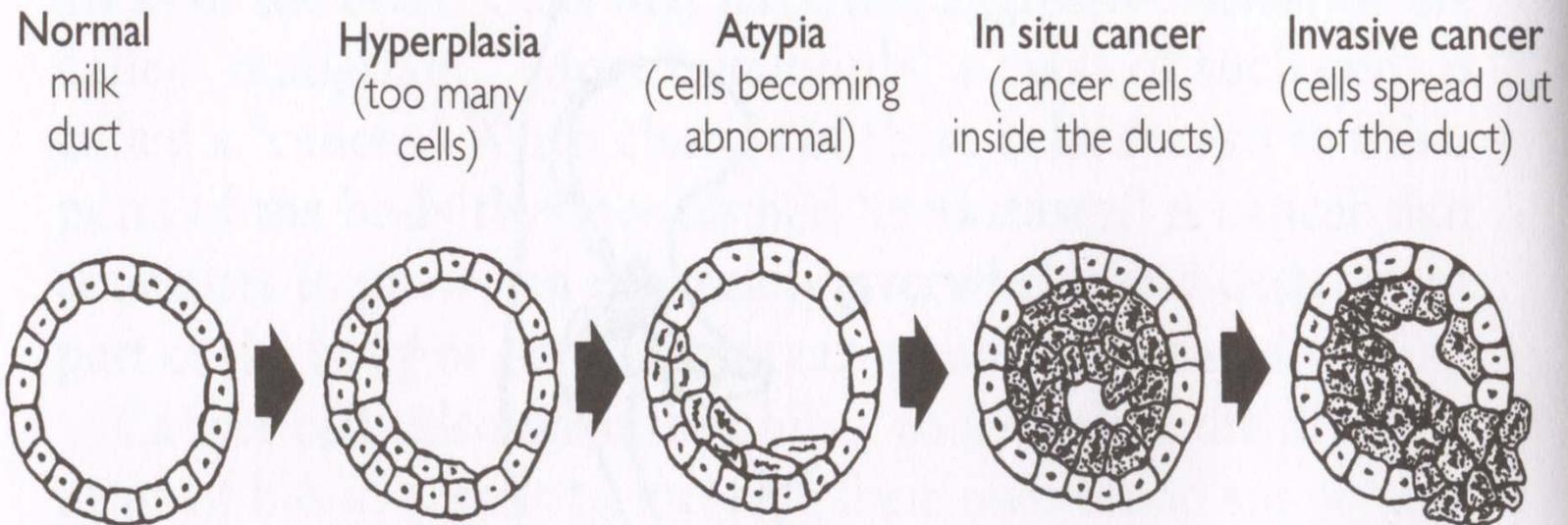
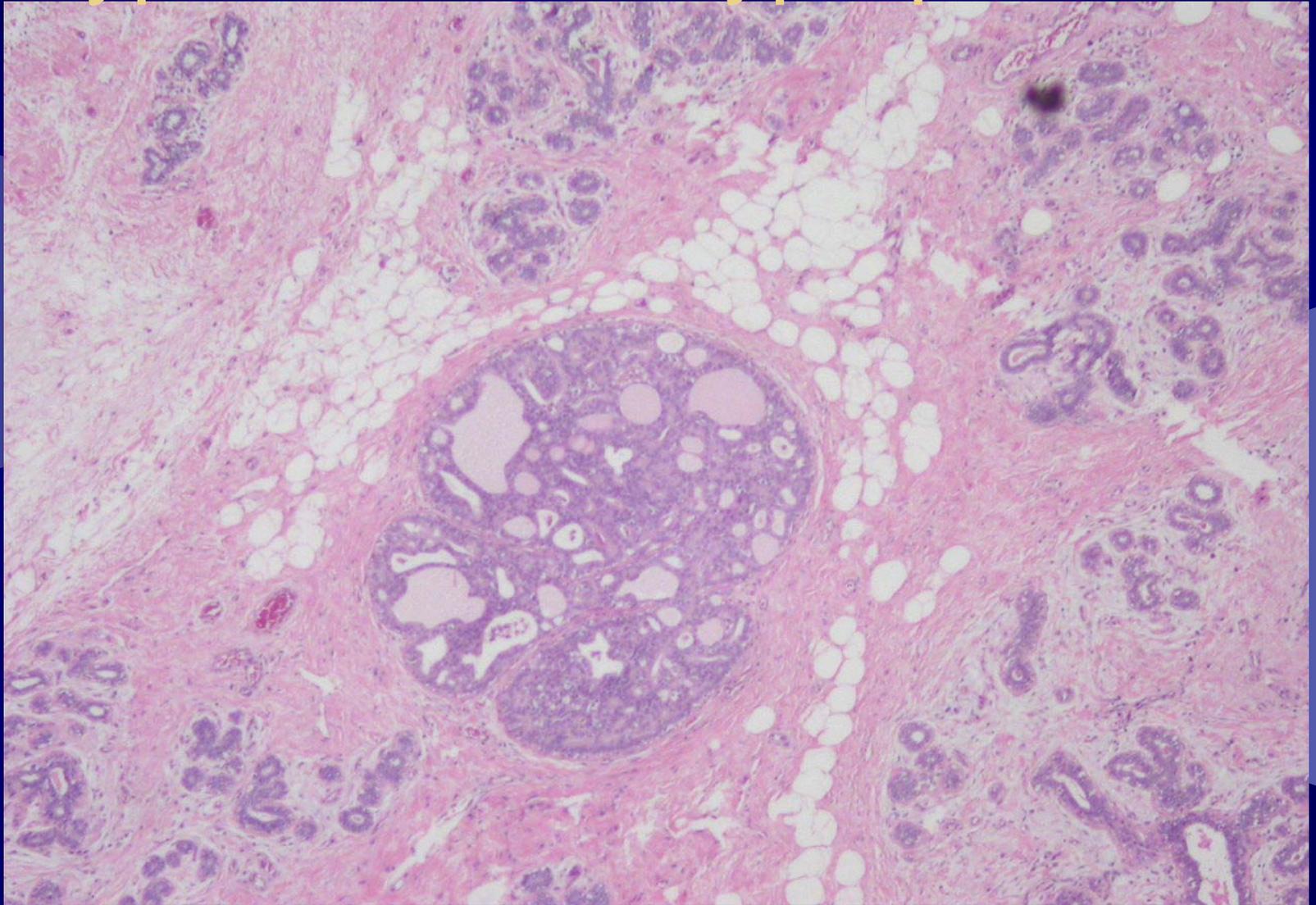


Figure 6: Breast cancer does not develop overnight. Gradually the cells become more abnormal-looking or atypical (see text). Eventually, the cells are recognized as being sufficiently abnormal to be called cancer cells that are initially inside the milk ducts (in situ cancer), and later become invasive breast cancer cells.

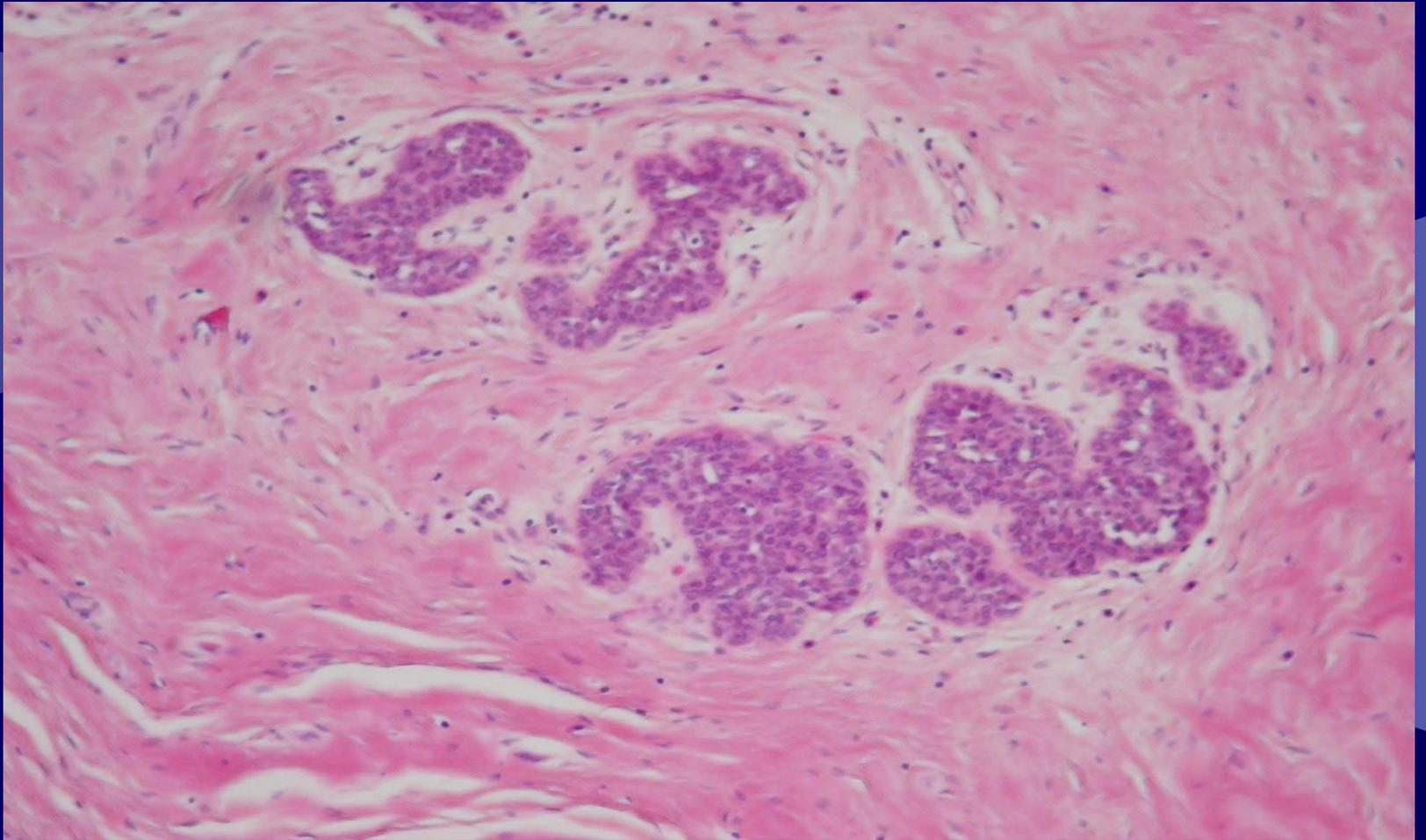
Definition of ADH or ALH

- ★ Lesion defined by changes similar to DCIS or LCIS but lack the complete criteria for the diagnosis or are less than the fully developed form.
- ★ Could be DCIS but only one microscopic duct involved
- ★ Absence of defined architectural and cytologic features of DCIS
- ★ Diagnostic reproducibility of ADH is poor
- ★ Hence there are inter-pathologist variations in interpretation

Atypical Ductal Hyperplasia

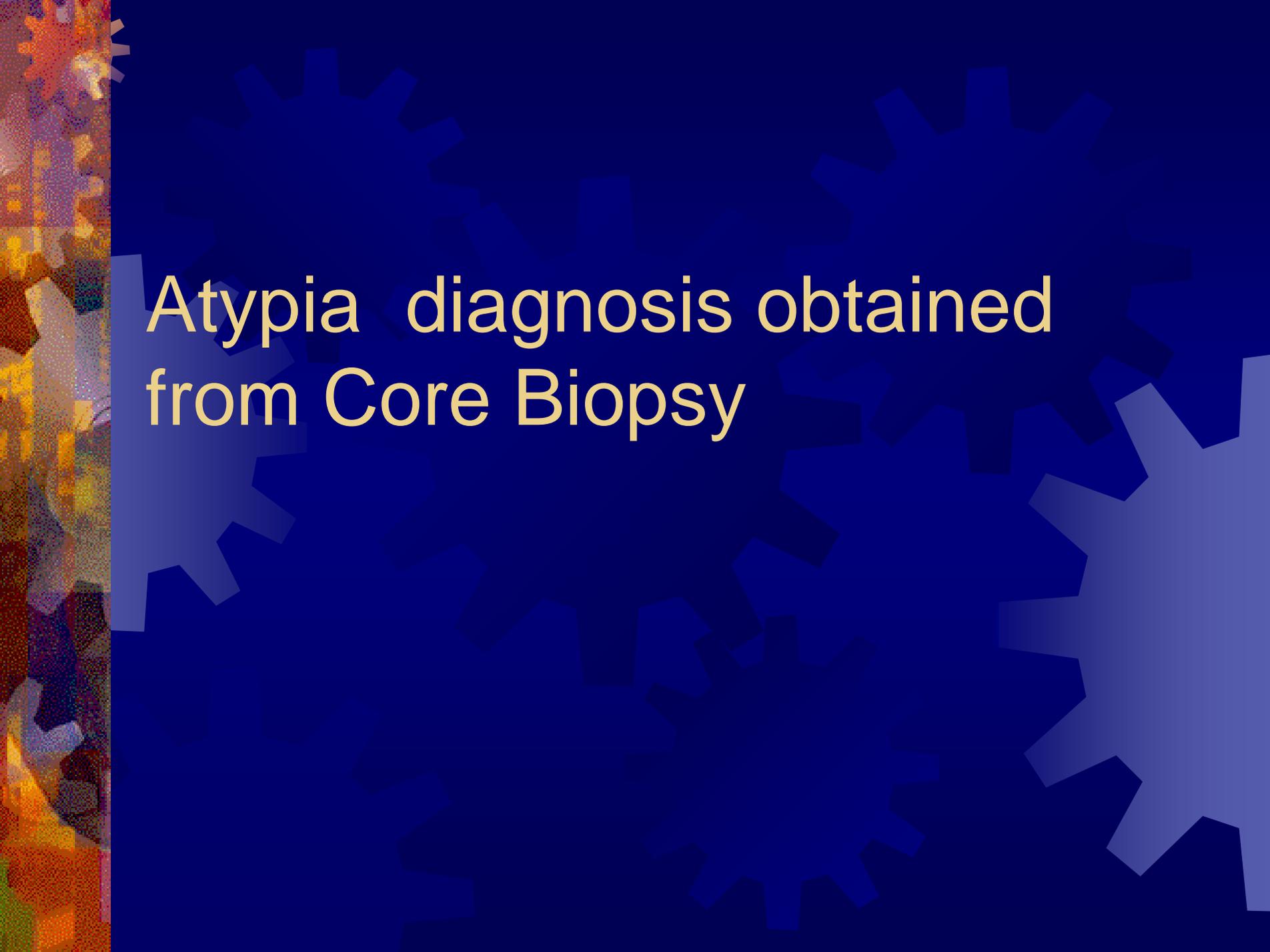


Atypical Lobular Hyperplasia



Clinical presentation

- ★ Mammographic abnormality (usually cluster of calcifications)- diagnosis made on stereotactic core biopsy or fine wire localization biopsy
- ★ Palpable lesion- atypia in association with a benign lesion

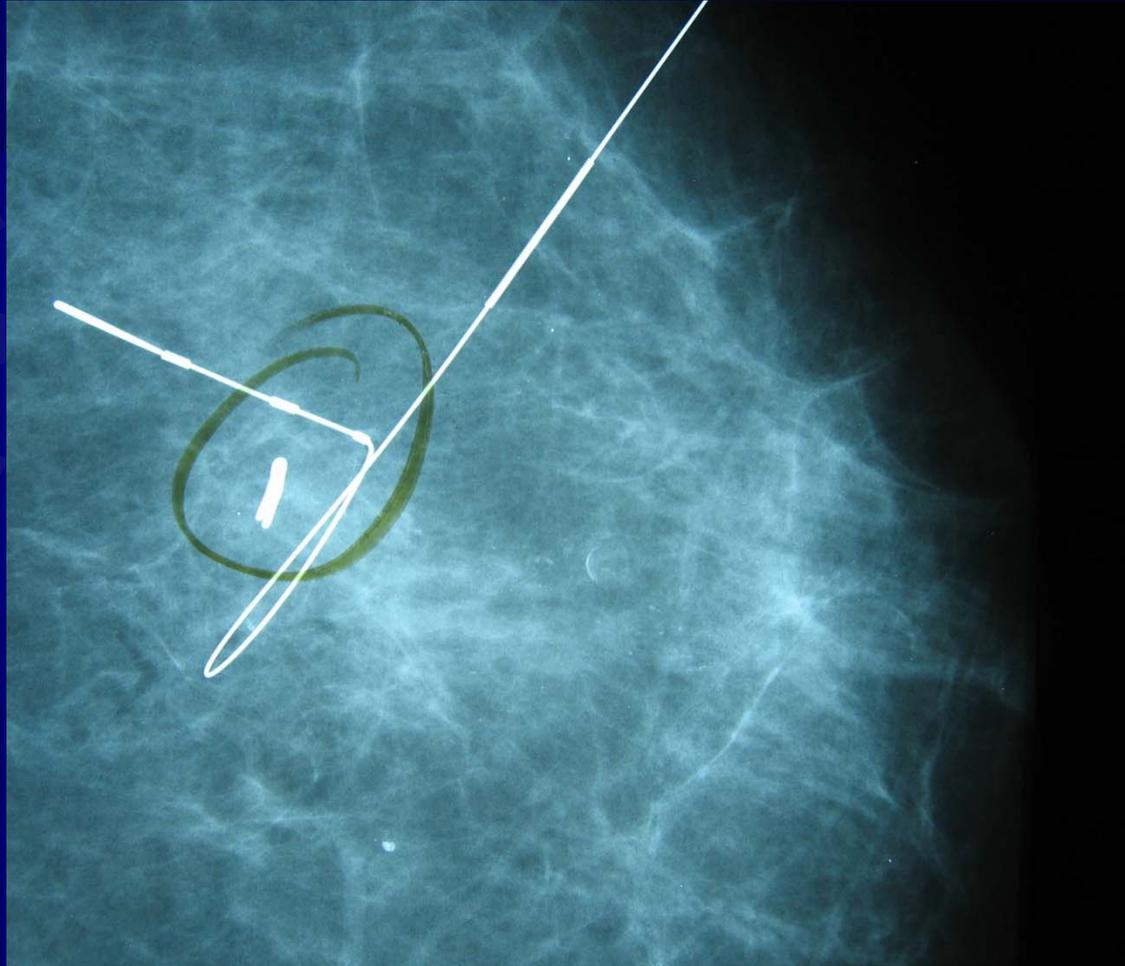


Atypia diagnosis obtained from Core Biopsy

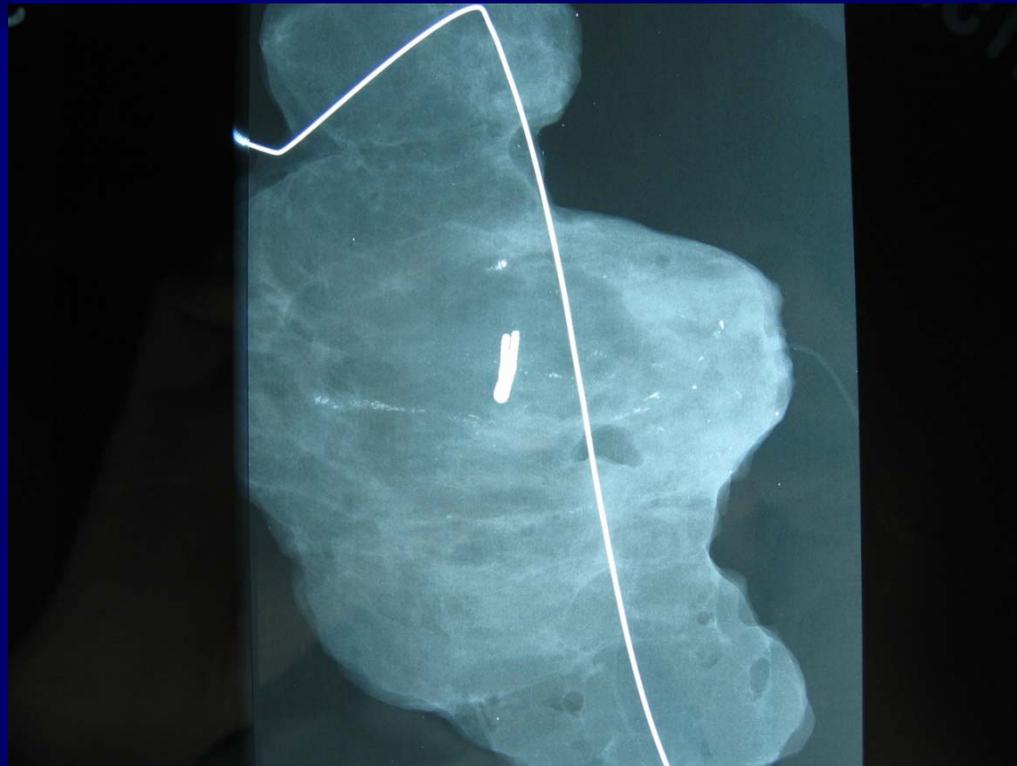
Diagnosis on core biopsy

- ★ Ms K age 63
- ★ Obese , diabetic woman of East Indian decent
- ★ Screening mammogram shows calcifications
- ★ Core biopsy atypical ductal hyperplasia

Ms. K fine wire biopsy



Ms K specimen radiograph



Ms K final pathology

PATHOLOGY REVIEW

7752496
3229541

SLIDES FROM ST. PAUL'S HOSPITAL
W04-3994 (9) Sep. 9

7 X 3 X 1 CM FINE WIRE LOCALIZATION BIOPSY OF LEFT BREAST

- Low grade cribriform ductal carcinoma in situ extending within less than 1 mm of multiple biopsy margins.
- Overall size of ductal carcinoma in situ indeterminate, at least 1 cm.
- Additional microscopic foci of atypical duct hyperplasia, including atypical ductal hyperplasia within small intraductal papillomas.

Comment: Microcalcifications are seen within scattered small areas of low grade cribriform ductal carcinoma in situ and within atypical duct hyperplasia. There are also scattered small intraductal papillomas with varying degrees of ductal atypia. There are scattered small foci of low grade ductal carcinoma in situ extending within less than 1 mm of margins in a few foci within different sections, as designated in the outside hospital pathology report.

Atypia on core biopsy

- ✦ Most of the data comes from the radiological literature
- ✦ Long term follow up not easily found
- ✦ A core is only an 11 to 14 gauge needle and thus only represents a portion of the lesion

ADH on Core Biopsy

Author	# Patients	ADH On Core	FWLB % Cancer
Zhao 2003	1036	53	50%
Winchester 2003	1750	77	17%
Eby 2008	991	141 3-focal T1-ADH 8-susp dcis	12.5% 22.4% 44.4%
Wagoner 2009		123	26%
Foster 2004	6081	75	17%

DIN1A on Core Biopsy (very difficult to find literature)

STUDY	CASES	UPGRADE	%
Ladshimi 2007	14	3	21%
Purdy 2006	12	2	16.6%
Mairtza 2007	63	9	14.3%
Bogi (CCC change)			30%

Flat Epithelial Atypia -?DIN1a (columnar cell change)

Chivukula 2009	2006-2008	8054 CNB	
Follow-up excision	FEA + ADH 190	FEA 35	ADH 45
Invasive cancer	8.4%	6%	0
DCIS	7.9%	3%	11%

Columnar Cell Lesions

Senetta 2009

CCL without atypia

68

Malignancy

0

FEA

55

1.8%

BC study on DIN1a

In process. No firm data yet

About 150 cases on core biopsy

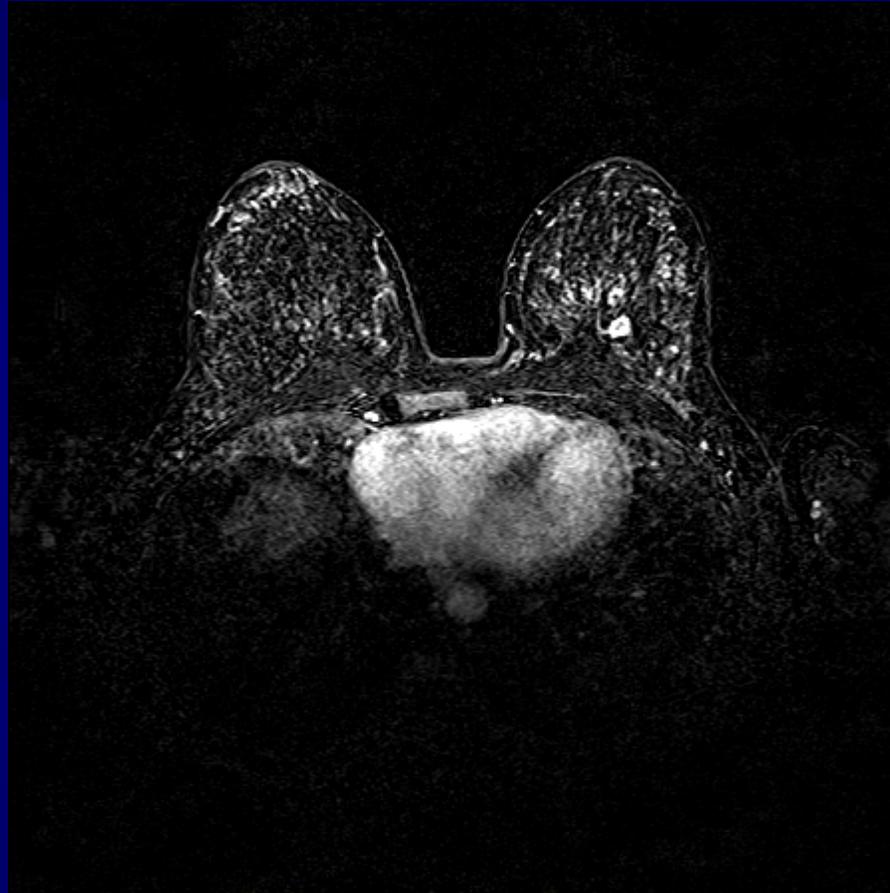
Few DCIS

one invasive (prev inv ca same breast)

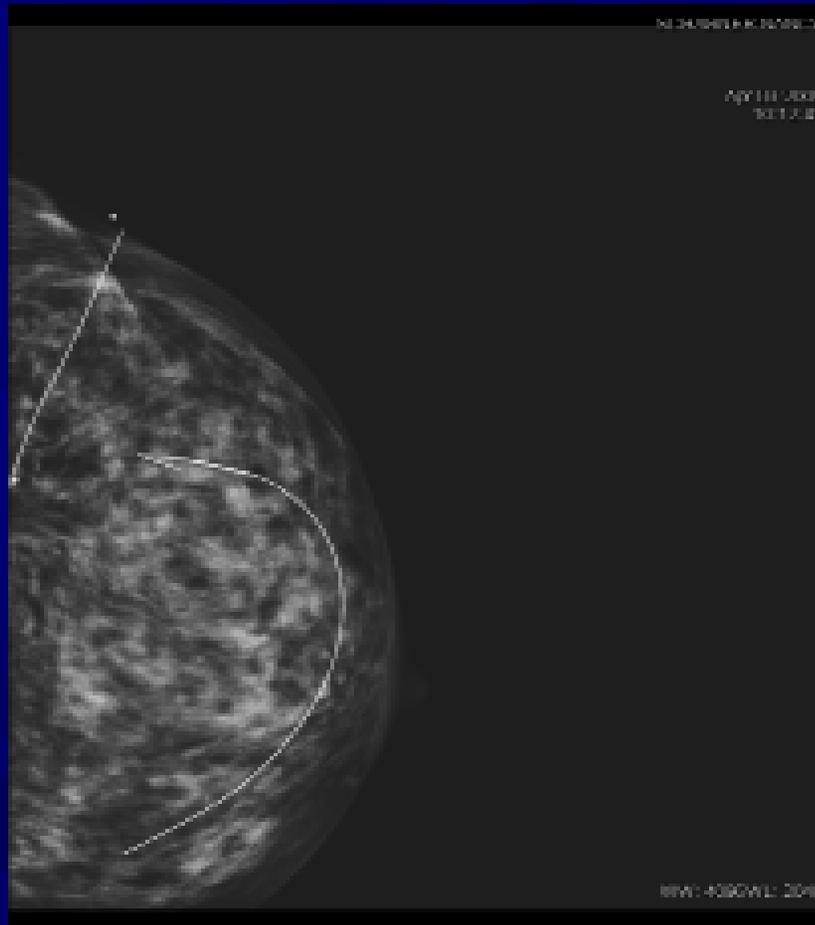
Clinical case of atypia

- ★ 50 yr old slim, healthy female with history of grandmother and great aunt with breast ca
- ★ Multiple previous screening mammos with known dense breasts
- ★ Feb 09 Calcifications R breast -core biosy DIN1a,1b and susp for 1c
- ★ MRI done showing susp lesion L breast

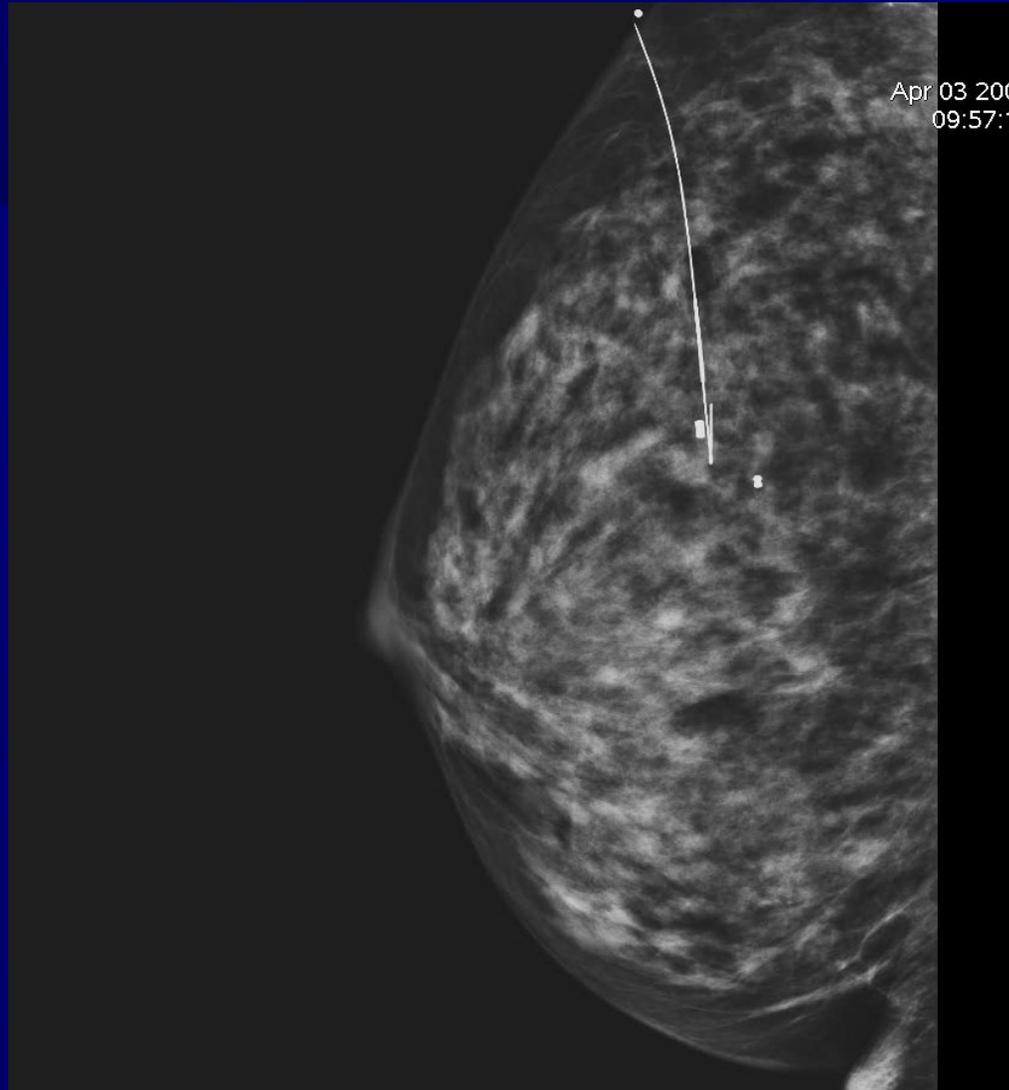
MRI



Left side fine wire



Right side fine wire-atypia



Clinical case of Atypia-cont

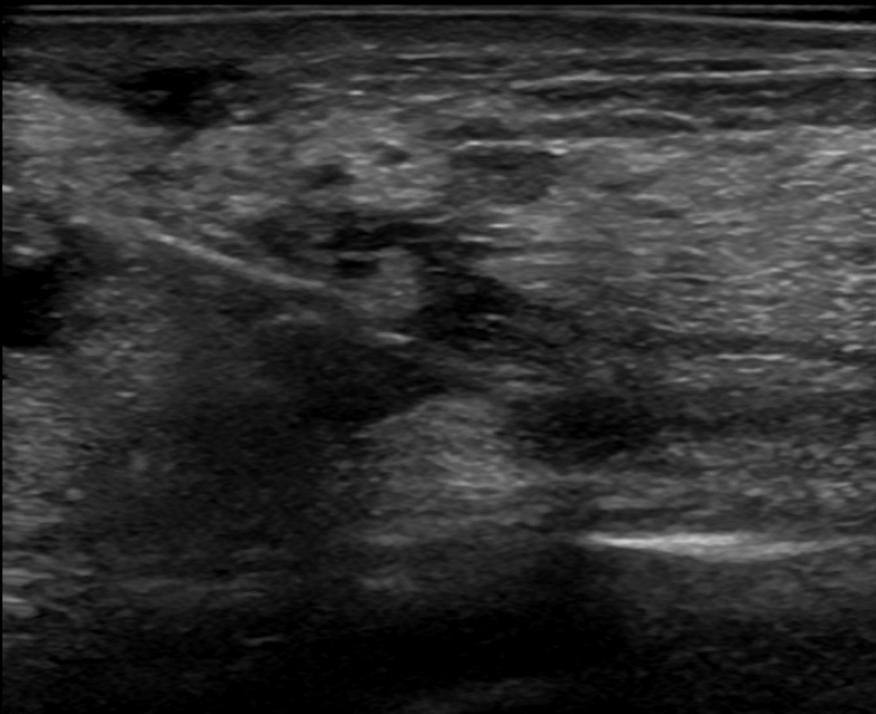
- US guided core biopsy-invasive ca-L
- Apr 09 R Fine wire biopsy and 2 L fine wire biopsies plus L SLNB
- Din1a an b b on both sides .Nodes neg
- Cancer missed

Clip insertion under US

BC Cancer Agency
01/06/09 01:59:29 PM ADM

MI 1.0 TIs 0.7 M12L
--:--:-- Breast

GE
L9

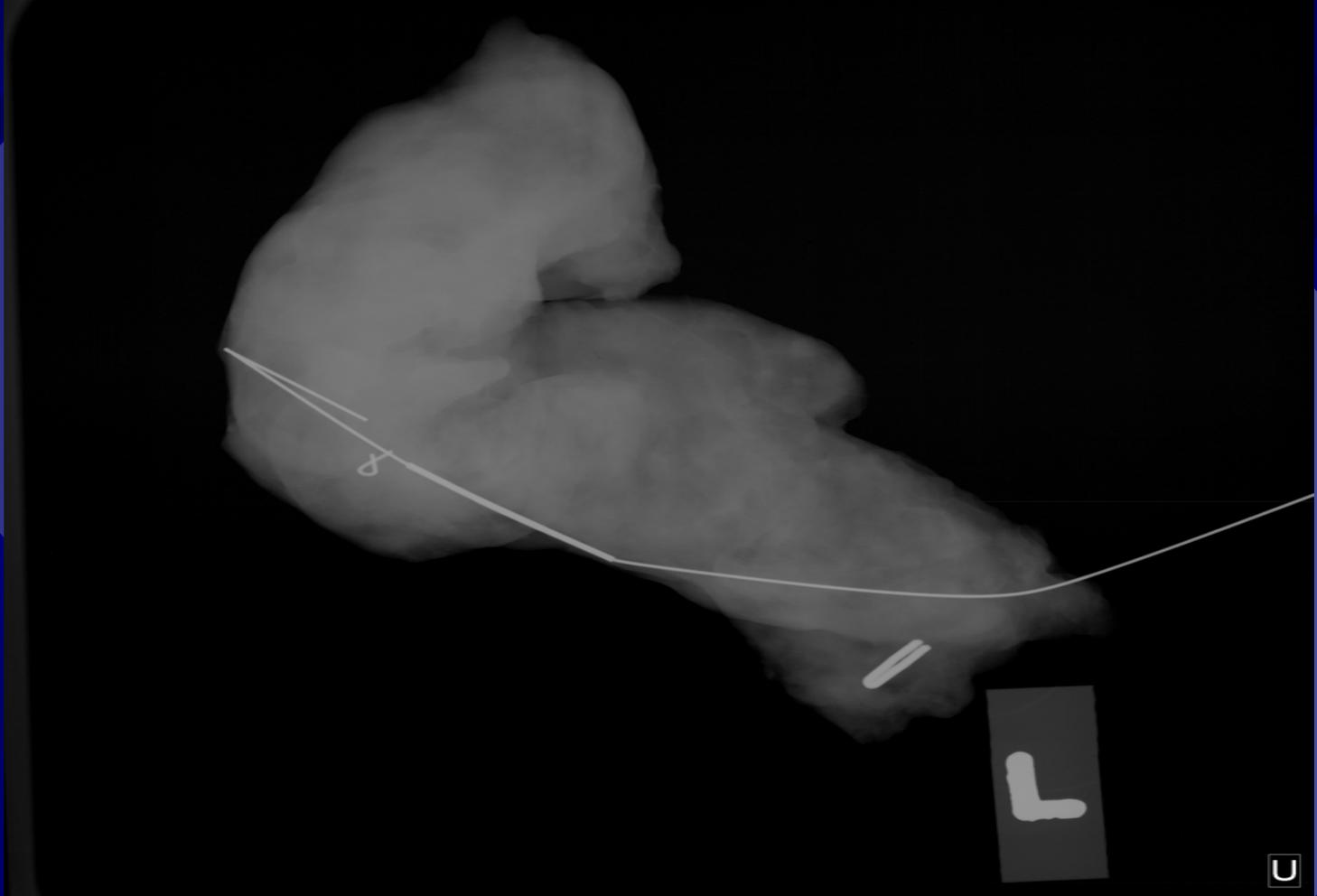


B	CHI
Frq	13.0 MHz
Gn	66
- S/A	0/3
Map	D/1/0
- D	3.3 cm
DR	63
- FR	12 Hz
- AO	100 %

1-
-
X
-
2-
X
-
-
-
3-
X

CLIP INSERTION

FWLB



Clinical case Atypia cont

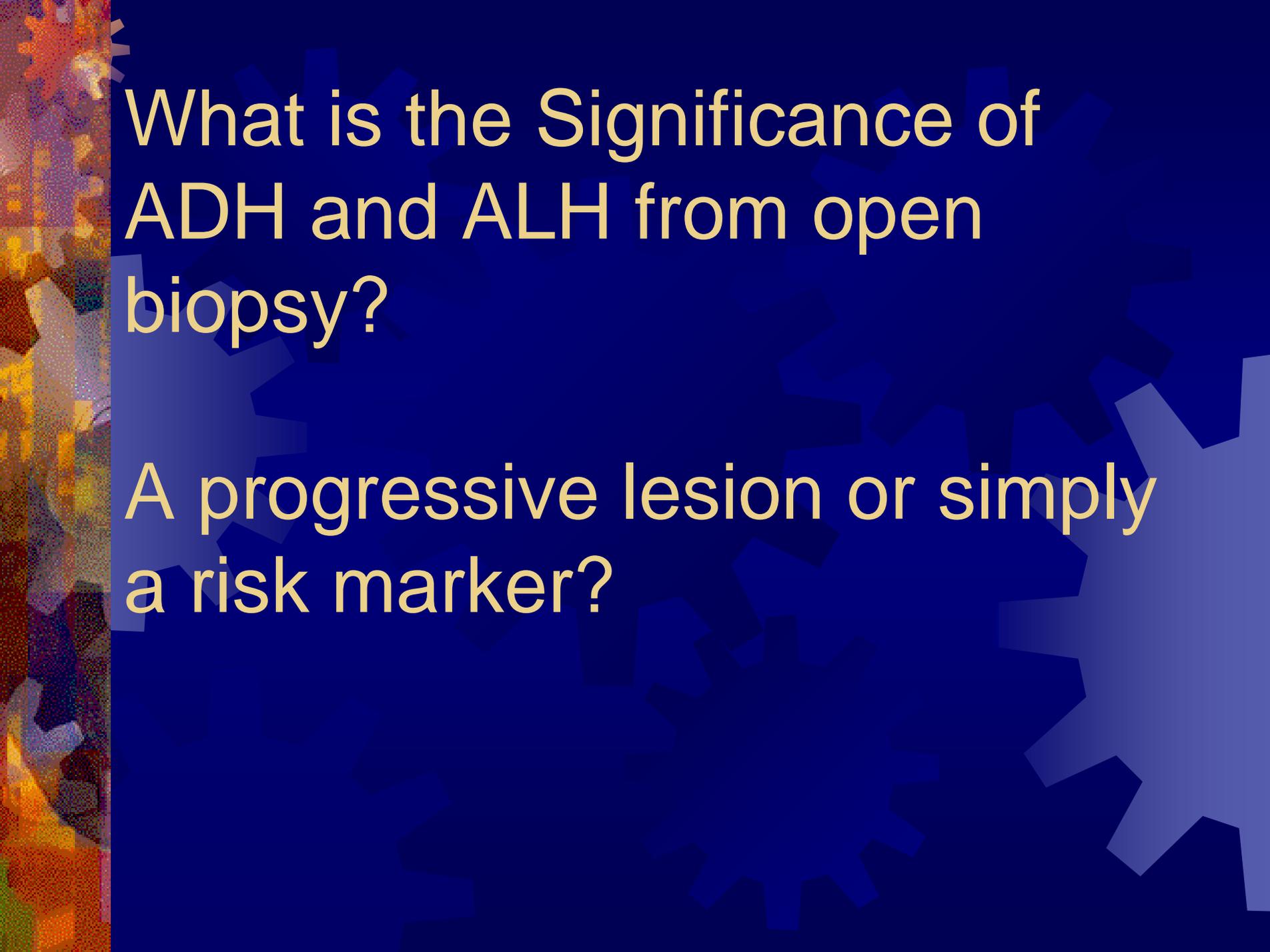
- June 09 repeat FWLB and successful removal of cancer
- Patient chose radiation
- Without the MRI , this patient would have presented in the future with a breast ca when it would have become large enough to detect

ALH on Core Biopsy

Author	# patients	ALH on core	FWLB % Cancer
Foster 2004	6081	20	10%
Dymtrasz 2003	766	13	50%
Elsheikh 2005		20	24%
Polom 2009	4326	17	29.4%

ALH or ADH on core bx

- ★ If atypia of any type is found on core biopsy , then
- ★ 10 to 50% will have cancer (insitu or invasive) found on excision of the area
- ★ All authors recommend fine wire localized excision



What is the Significance of
ADH and ALH from open
biopsy?

A progressive lesion or simply
a risk marker?

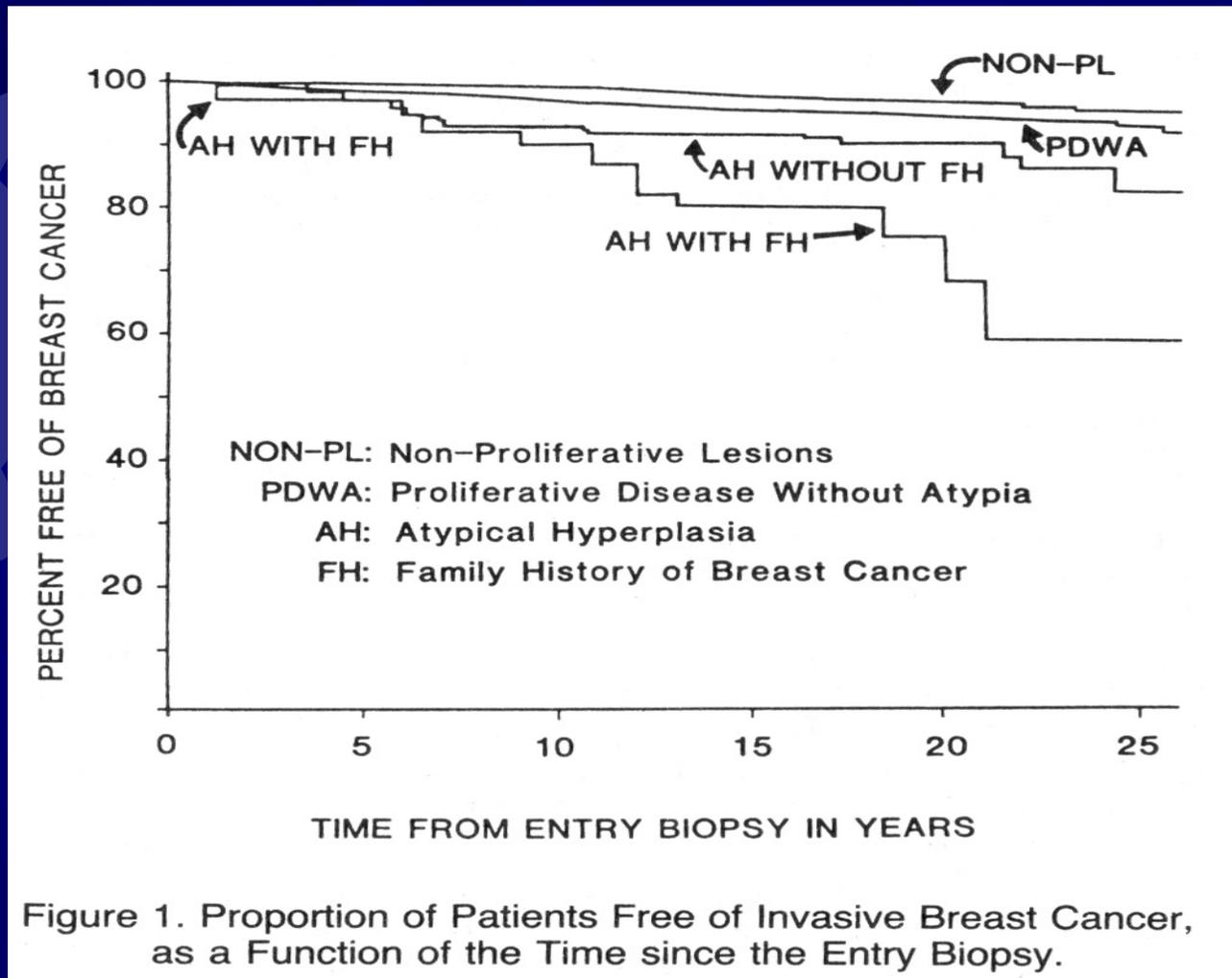
Relative risk for invasive ca

- ★ No increased risk in non proliferative disease as cysts, duct ectasia
- ★ Slight (1.5-2X) increased risk in hyperplasia of usual type, sclerosing adenosis, papilloma
- ★ Moderate risk (4-5X) in atypical hyperplasia
- ★ High risk (8-10X) in LCIS

Atypia and risk of invasive ca

- ★ Dupont and Page 1985 NEJM
- ★ Previous open biopsy followed for 17 yrs
- ★ 3303 women-1925 with proliferative disease
- ★ relative risk
- ★ cysts 1.3
- ★ Proliferative disease 1.9
- ★ ADH 5.3
- ★ AH with Family history 11

Atypia and risk of invasive ca



Atypia and risk of invasive ca

★ London et al 1992

★ 8 yr follow up

	relative risk
No proliferation	1
Proliferative disease	1.6
AH	3.7

Atypical Lobular Hyperplasia

- ★ Page et al 2003 (lancet)
- ★ Retrospective analysis of 252pt (261) biopsies 1952-1985
- ★ 50 (20%) developed invasive ca
 - ★ 68% in same breast
 - ★ 24% in contralateral breast
- ★ ALH risk intermediate between local process and overall risk

Nurses Health Study-ADH

Collins, et al 2007

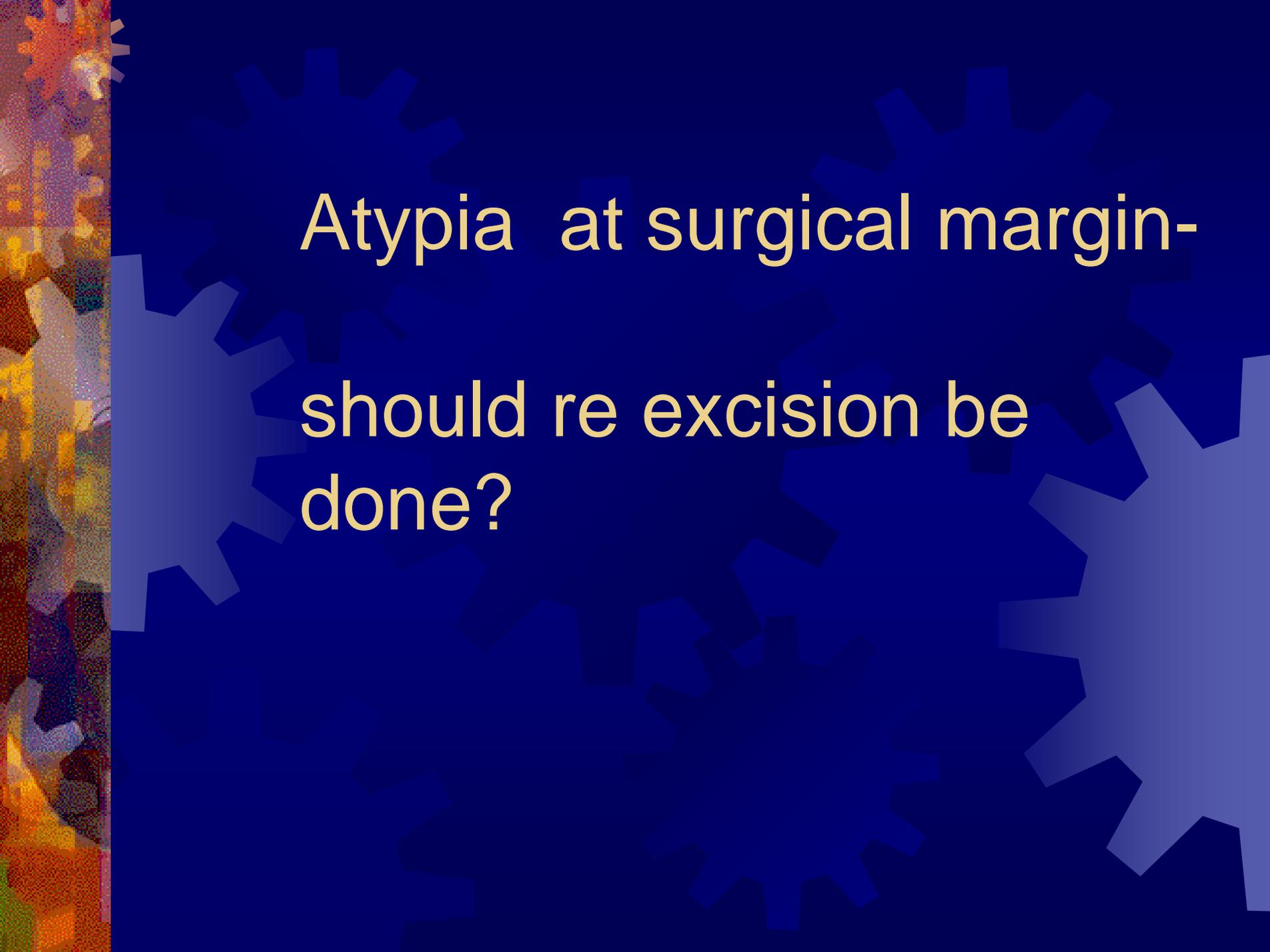
- Mean age at biopsy 43.5 yrs
- Correlations with ADH
 - More women were:
 - Older
 - More ETOH use
 - More likely to use HRT
 - More likely to have fam hx of breast ca

Nurses Health Study (1976-1995) risk of breast ca

	All breast ca	Invasive breast ca	Pre-meno at dx	Post-meno at dx
Non proliferative	1	1	1	1
Proliferative no atypia	1.5	1.58	1.39	1.89
Atypia	4.9	4.04	3.89	4.04
ductal	3.99	2.77	2.72	4.04
lobular	5.78	5.72	7.3	3.41
Ductal & lobular	6.95	8.24		

Nurses Health Study cont

- Risk of ca increased after 10 yrs
- Risk constant with ALH but increased with ADH
- Among all women with AH who developed breast ca 56% developed in the ipsilateral breast
- With ALH 61-70% occurred in the ipsilateral breast

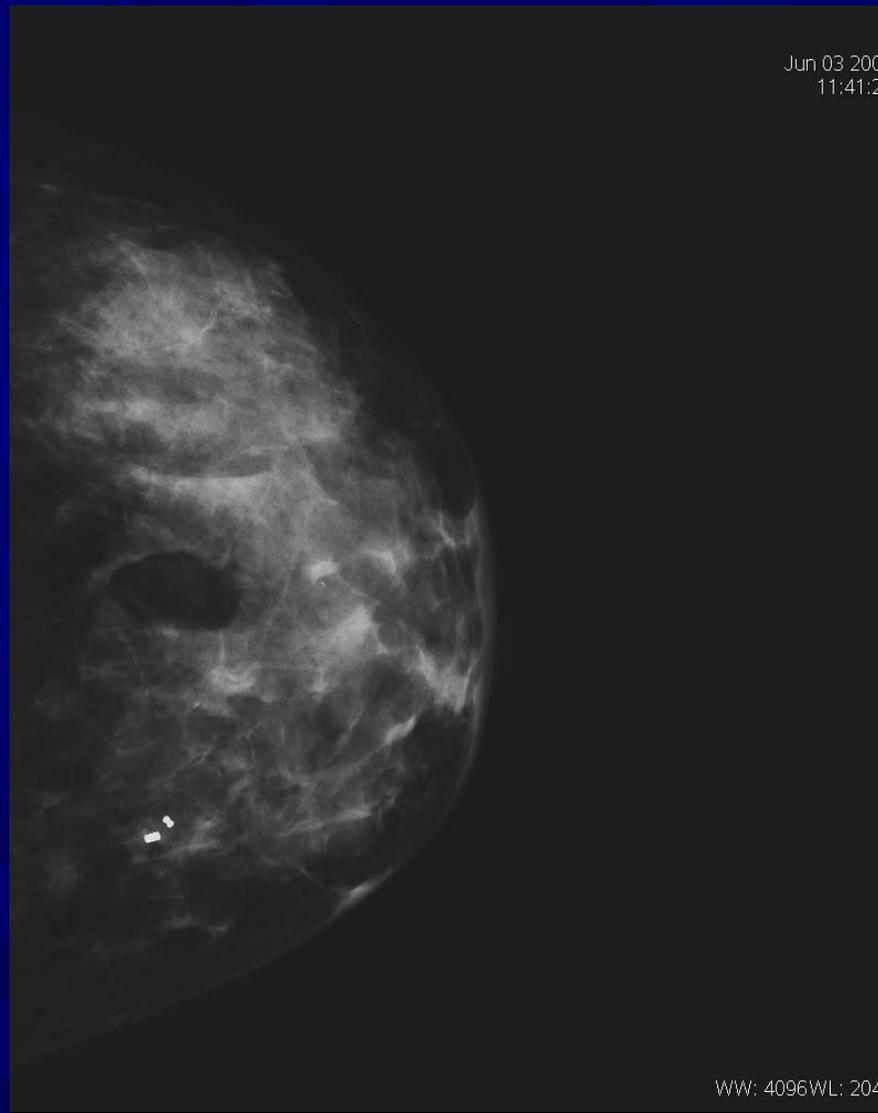


Atypia at surgical margin-
should re excision be
done?

Case of 42 yr old

- Healthy, no risk factors
- Somewhat difficult patient
- Aug 2007 palp mass R breast
- Mammo and US – cyst but bilateral calcs
- Nov 08 Core bx L -ADH
- Dec 08 FWLB L ADH(margins clear)
- Feb 09 new calcs seen on digital L and core biopsy done showing DCIS

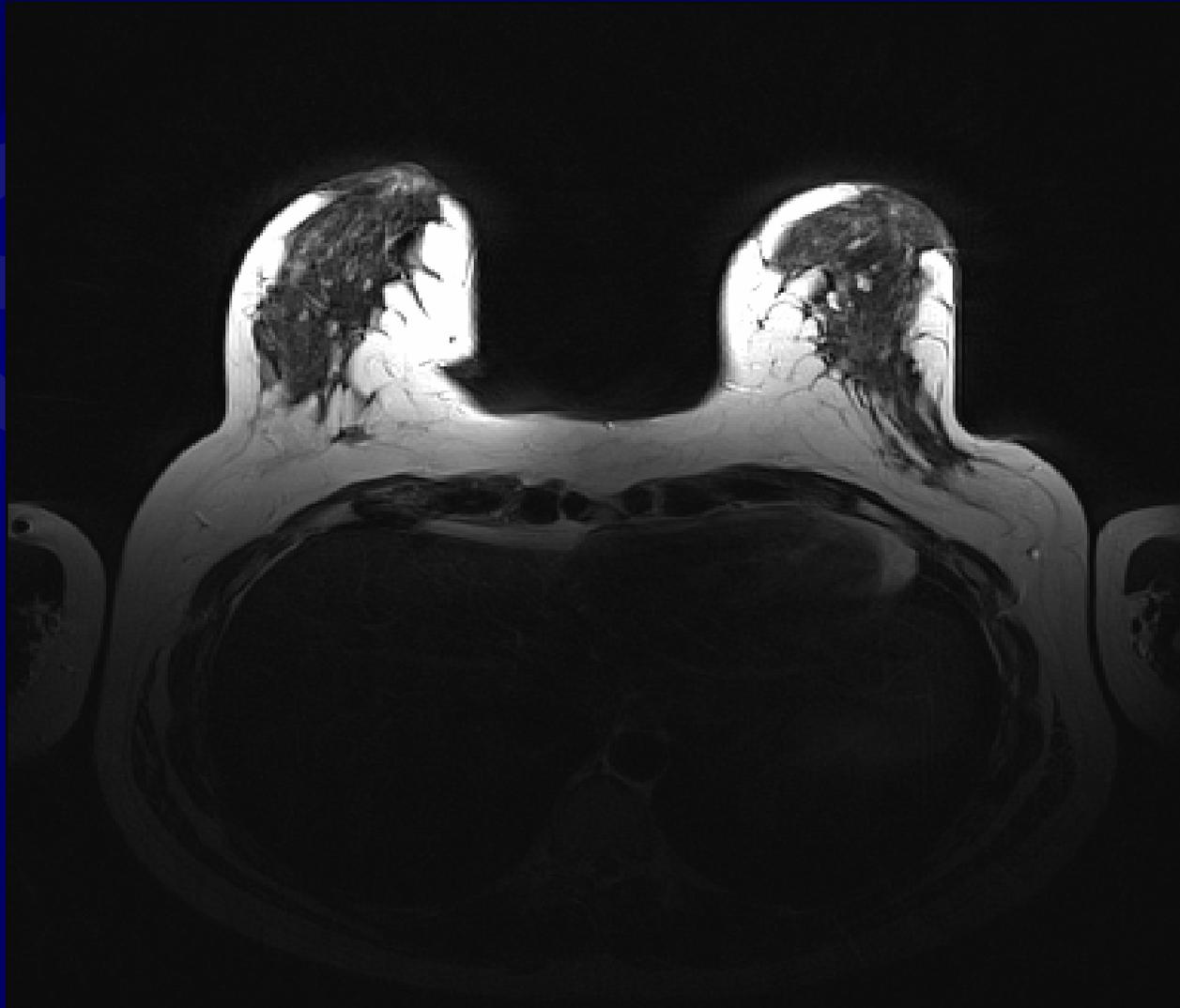
Left Breast mammo



Case 42 yr old continued

- June 09 MRI show susp lesion R
- Core biopsy under us invasive ca at 6 and DIN 1a at 8:30

Right susp on MRI



Right Core biopsy under US



42 yr old continued

June 29/09 bilateral mastectomies ,right
SLNB and bilateral reconstruction

PATH: DCIS on left

12 mm invasive ca right

2/2 nodes positive

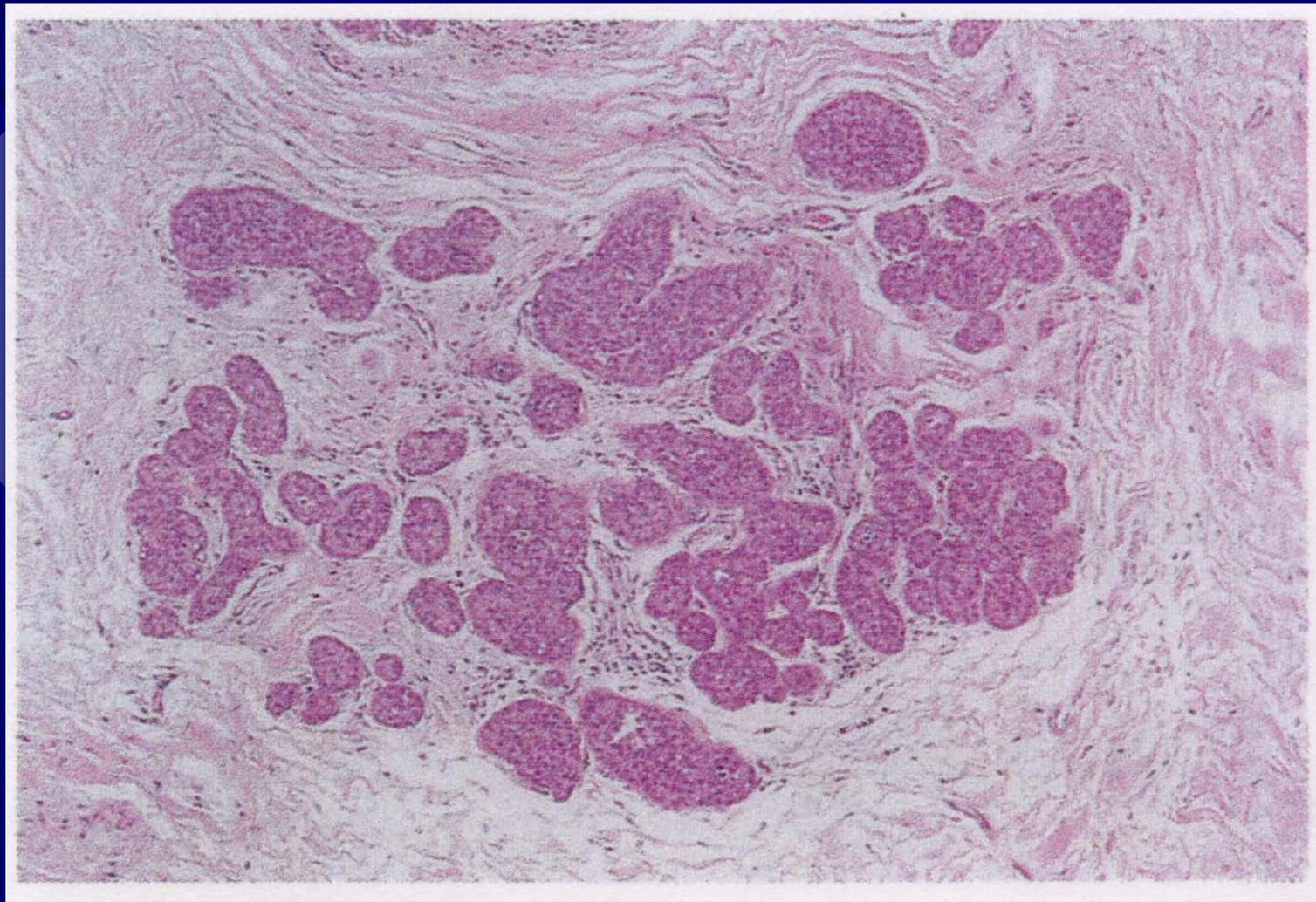
Atypia at margin

- Arora et al NY 2008
- 2001-2006 44 pts with ca with ADH at margins
- 24 pts re excision
- 14 had residual ADH or ca (58%)
- 25% with ADH only at margins had DCIS or Invasive ca
- Re-excision recommended

Atypical Hyperplasia

- ✱ Does the entire lesion need to be excised?
- ✱ Yes, if you believe this is a progressive lesion
- ✱ No , if you believe it is simply a risk marker

LCIS



LCIS and cancer risk

- LCIS is considered a marker for increased risk of ca in both breasts
- Risk assessed at increasing at 1% per year for a lifetime risk of up to 30%
- Higher risk if associated family history (up to 50%)

LCIS History

Clinical Management of ALH and LCIS

1941	LCIS is designated as “carcinoma” and mastectomy is recommended
1941–1970	Mastectomy with contralateral biopsy is favored over observation
1970	Introduction of mammographic screening and increased public awareness of breast cancer
1978	Rosen and colleagues reported that invasive carcinoma subsequent to LCIS was exceptional
1985	NSABP legitimized breast preservation as alternative to mastectomy
1986	Haagensen reports that the majority of patients with LCIS never develop invasive carcinoma
1996	Observation is favored over mastectomy with contralateral biopsy

LCIS and risk of breast ca

- NSABP data 2004
- 180 pt with 12 year follow up
- 26 (14%) ca in same breast , 9 were invasive (8 lobular invasive)
- 96% in the same quadrant
- 14 (8%) ca in contralateral breast, 8 were invasive (6 were lobular inv.)

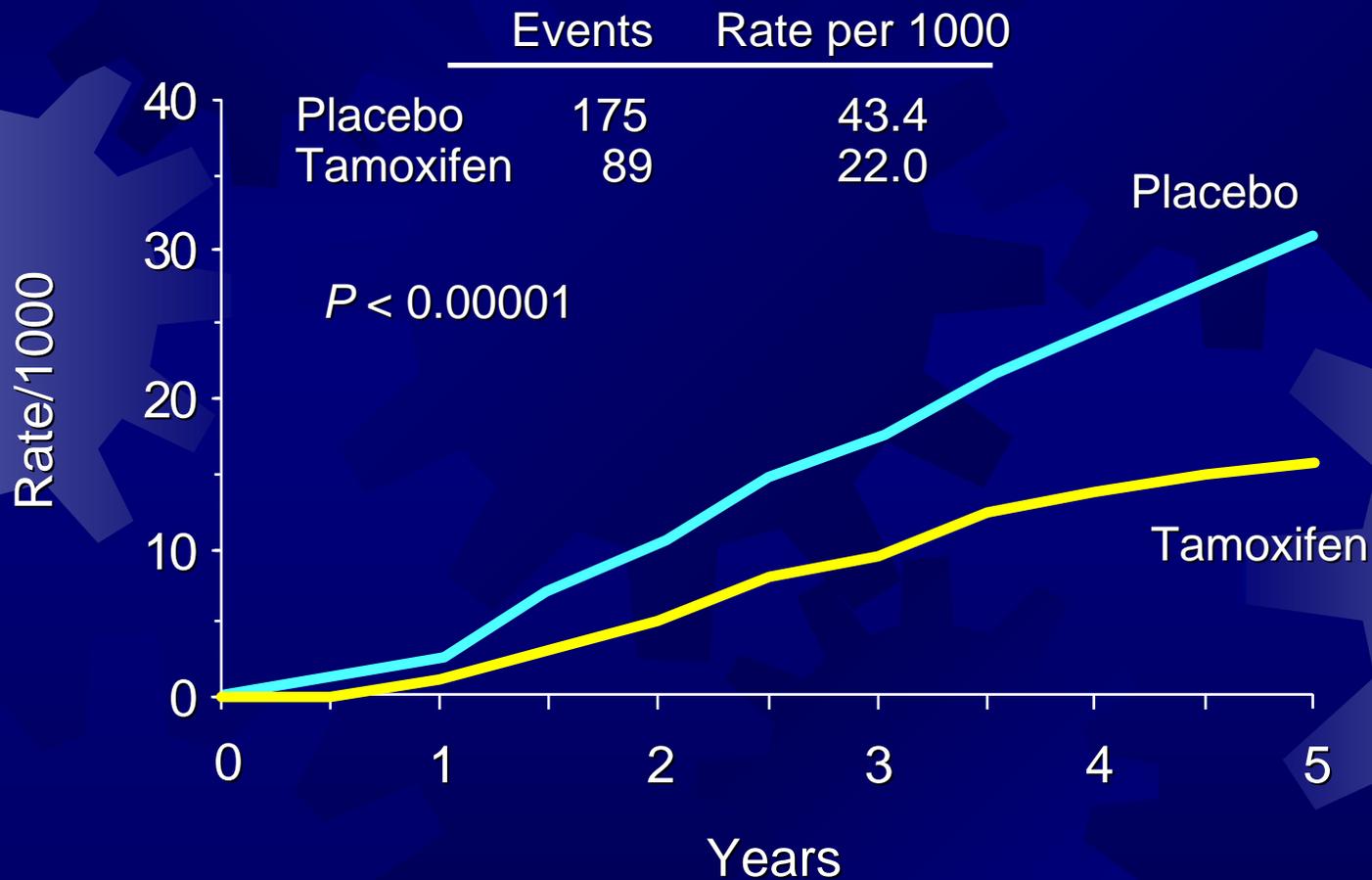
Management of lobular neoplasia

- Anderson 2006 review (Seattle)
- ALH and LCIS ob core biopsy need FWLB
- Found on surgical biopsy do not require further intervention even if at margins
- Consider bilateral mastectomies in special circumstances

Treatment options for ADH and ALH

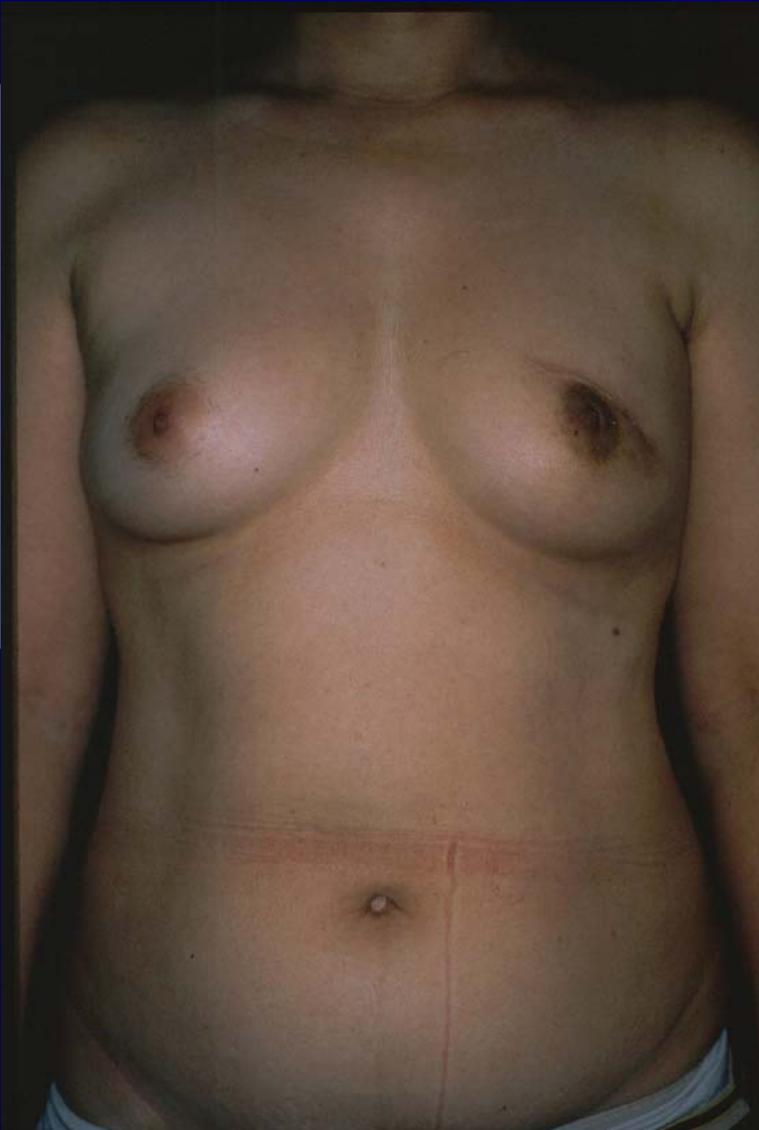
- ✦ Excise entire lesion (if possible)
- ✦ Close follow up with yearly mammograms and 6 mo clinical exam
- ✦ Tamoxifen for 5 years- 49% risk reduction in prevention trials
- ✦ Raloxifene 50% risk reduction
- ✦ Aromatase inhibitors under study in post menopausal women only
- ✦ Bilateral mastectomies (consider with family history)

BCPT Results: Cumulative Rate of Invasive Breast Cancer



Adapted from Fisher et al. *J Natl Cancer Inst* 1998;90:1371-1388.

Prophylactic mastectomies



Conclusions

- ★ ADH, LDH and LCIS are lesions that the surgeon will frequently encounter
- ★ If detected on core biopsy, surgical excision biopsy is appropriate
- ★ There is a significant increased risk of developing insitu or invasive cancer in the future with the risk increasing over time
- ★ Patients need to be counselled on the long term risk and on the options of treatment