

A grayscale mammogram of a breast, showing the internal tissue structure. The image is split vertically down the middle. The text is overlaid on the image.

Breast Imaging Made Brief and Simple

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What women are referred for breast imaging?

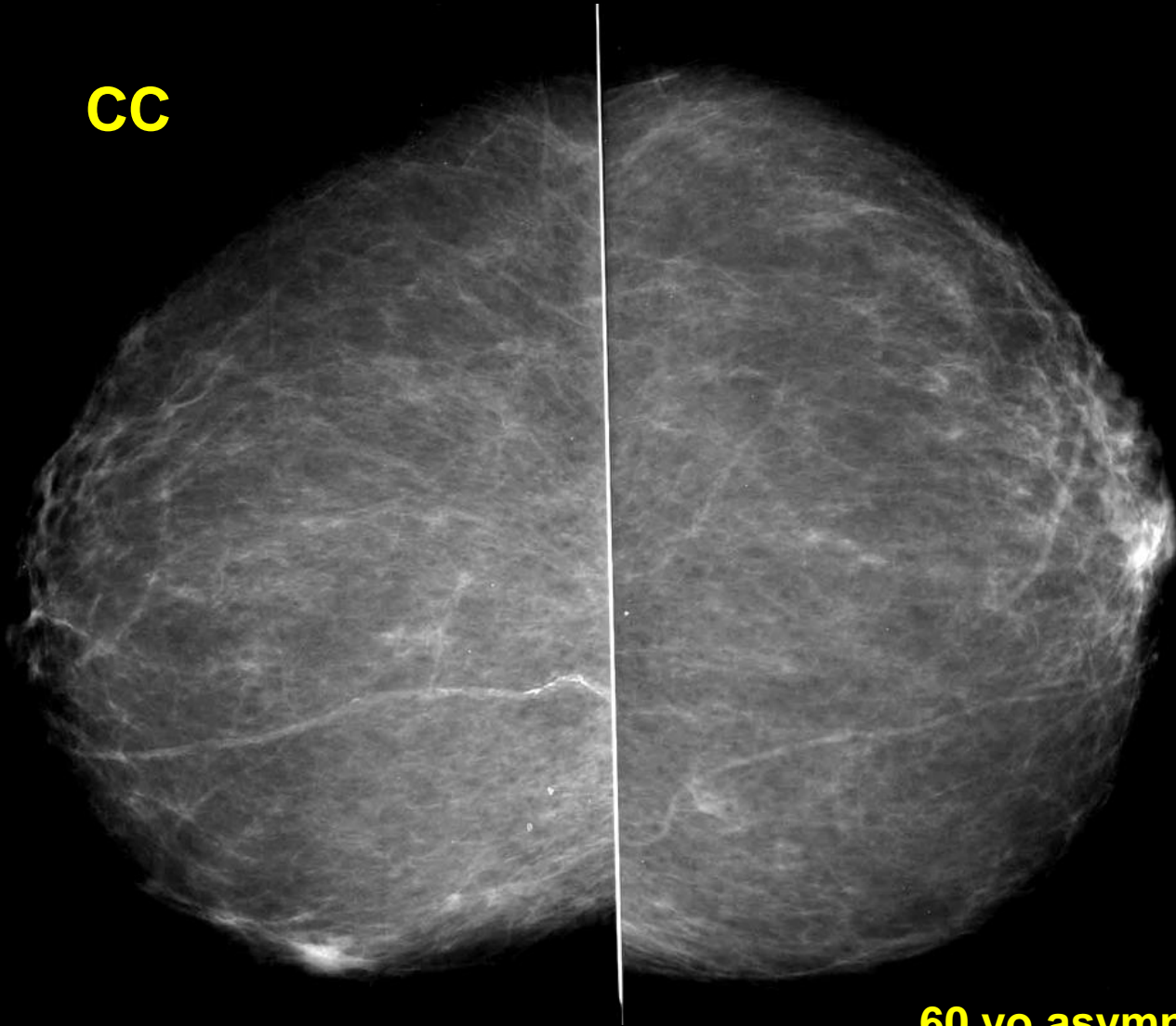
Two groups of women are referred for breast imaging, those without symptoms (asymptomatic) and those with symptoms.

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The asymptomatic women have a screening mammogram to look for small nonpalpable abnormalities in the breasts.

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CC



60 yo asymptomatic

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MLO



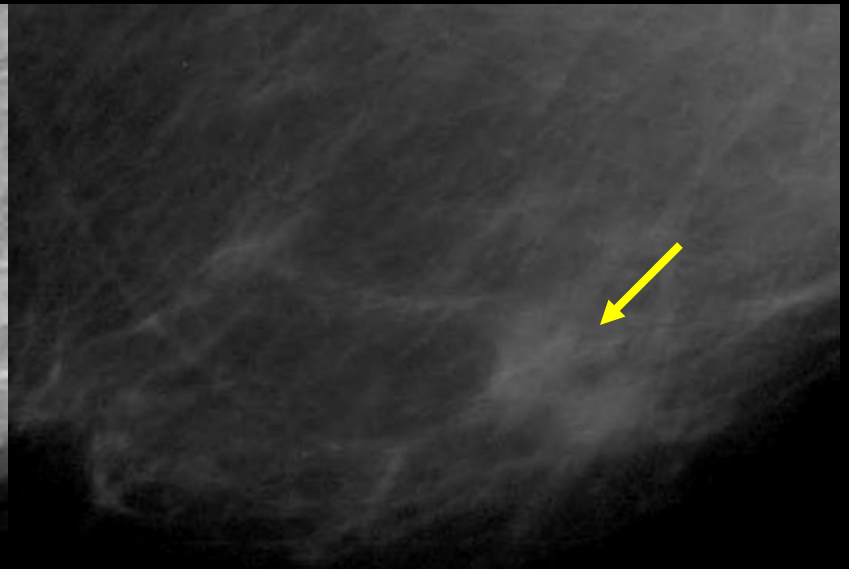
60 yo asymptomatic

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Irregular shaped mass with indistinct margins on the left at 8:00 in the middepth of the breast

BI-RADS 4 Biopsy recommended



Dx: Invasive ductal carcinoma

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BI-RADS is an assessment scale indicating the likelihood of breast cancer for mammographic findings.

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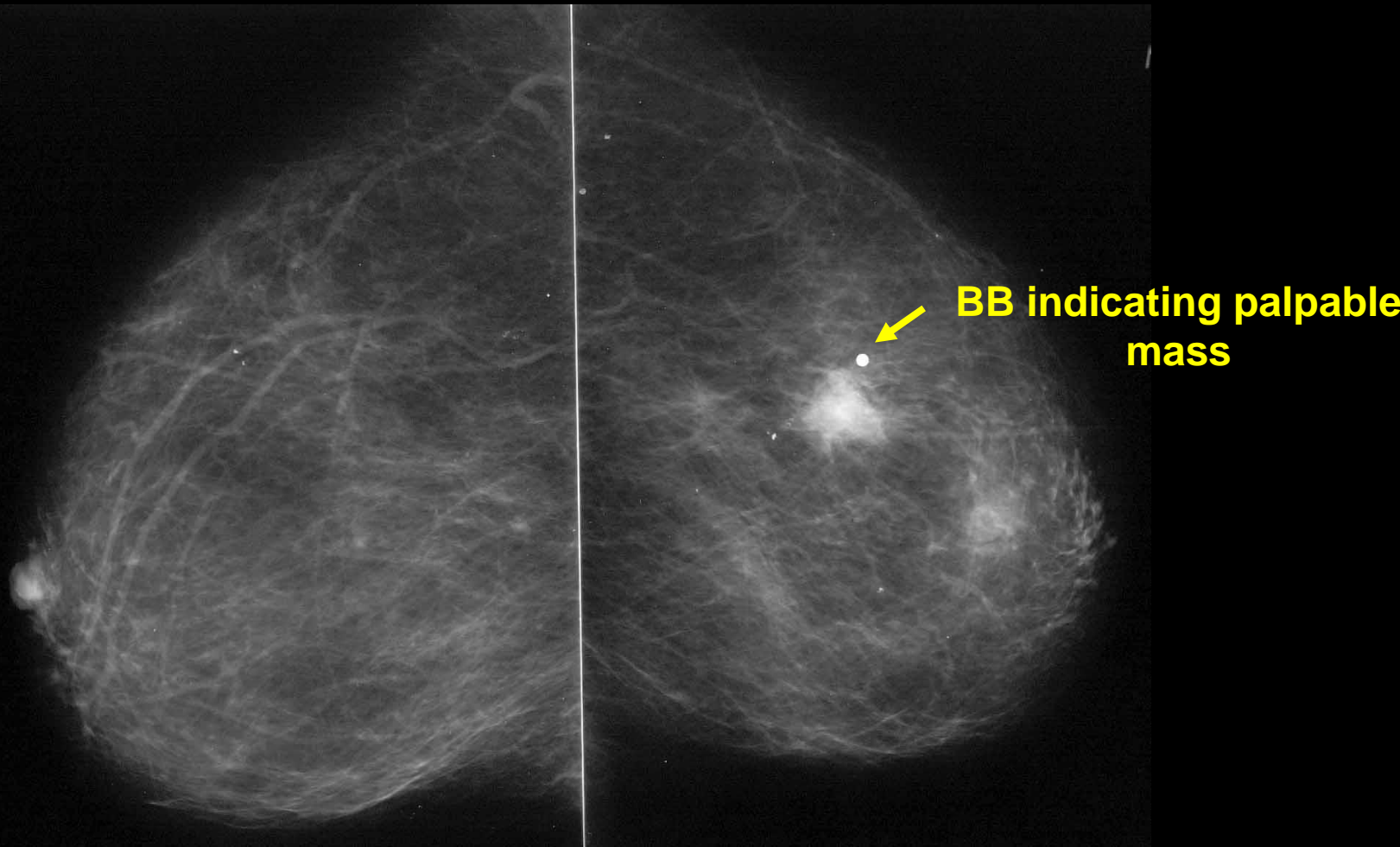
- **0 Further information needed to put in assessment category**
- **1 Normal**
- **2 Benign finding**
- **3 Probably benign-6 mo followup**
- **4 Suspicious-biopsy**
- **5 Malignant-biopsy**

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The women with symptoms have a diagnostic mammogram first. Symptoms usually include a palpable mass or nipple discharge.

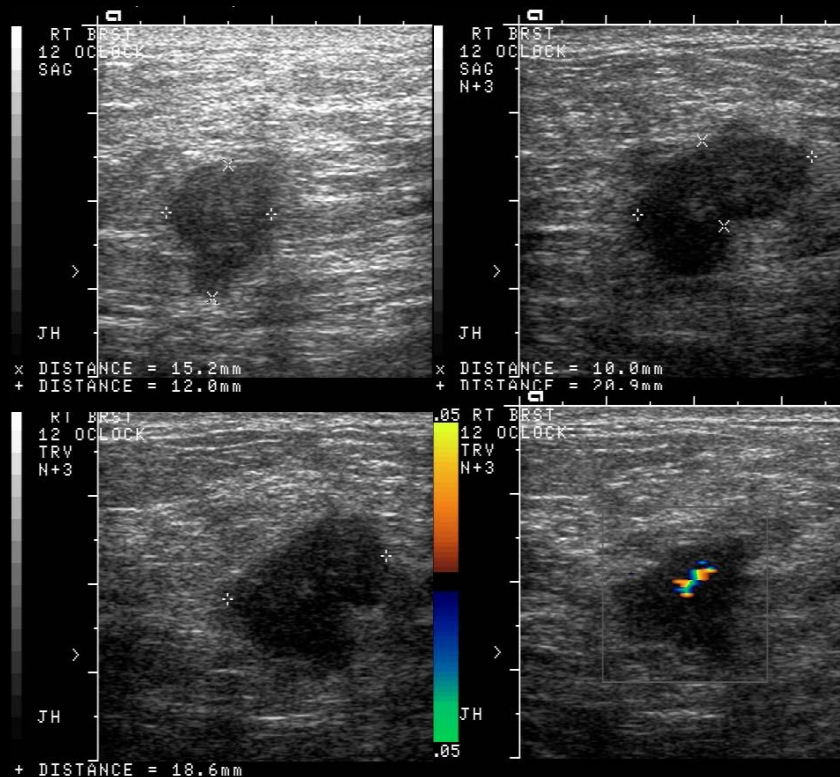
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The area of concern is marked with a BB.



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Further imaging workup for these women includes additional mammographic views and ultrasound.



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Breast Cancer Statistics

- **Most common malignancy in American women (except skin)**
- **Approximately one third of new cancers diagnosed**
- **Second leading cause of death from cancer**
- **211,300 new cases of invasive cancer this year**
- **55,700 new cases of DCIS this year**
- **Leading cause of premature mortality- average 18.5 potential years of life lost**

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Breast Cancer Statistics

If breast cancer is diagnosed while the disease is local survival is 96%.

Survival for regional disease is 78%.

Survival for distant disease is 21%.

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Methods of detection of breast cancer:

Breast Self Examination

Clinical Breast Exam

Mammography

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Methods of Detection of Breast Cancer

Breast Self Examination and Clinical Breast Examination are used in the women under 40 yo to detect palpable masses.

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Methods of Detection of Breast Cancer

At 40 and older mammography is used to screen for breast cancer in women without symptoms.

Mammography is the most sensitive examination for detection of early breast cancers.

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Methods of detection of breast cancer

At 40 and older Breast Self Examination and Clinical Breast Examination are used to detect breast cancers not seen on a mammogram because of technical limitations, interval tumor growth or breast cancers missed on the mammogram.

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American Cancer Recommendations for Screening Mammography

**Begin screening at age 40 unless the
woman has a mother or sister who
developed breast cancer before
menopause.**

Screen annually.

No end age for screening mammography.

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Risk factors for development of breast cancer

Female

Age > 35

Early menarche

Late menopause

Nulliparity

Pregnancy after 30

Affected first degree relative (mother, sister, daughter)

Previous history of breast cancer

Biopsy proof of atypical epithelial proliferation

Biopsy proof of lobular carcinoma in situ

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The reduction in mortality for women whose breast cancers were detected on a screening mammogram is 30% or higher.

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Mammographic findings of breast cancer

Mass

Microcalcifications

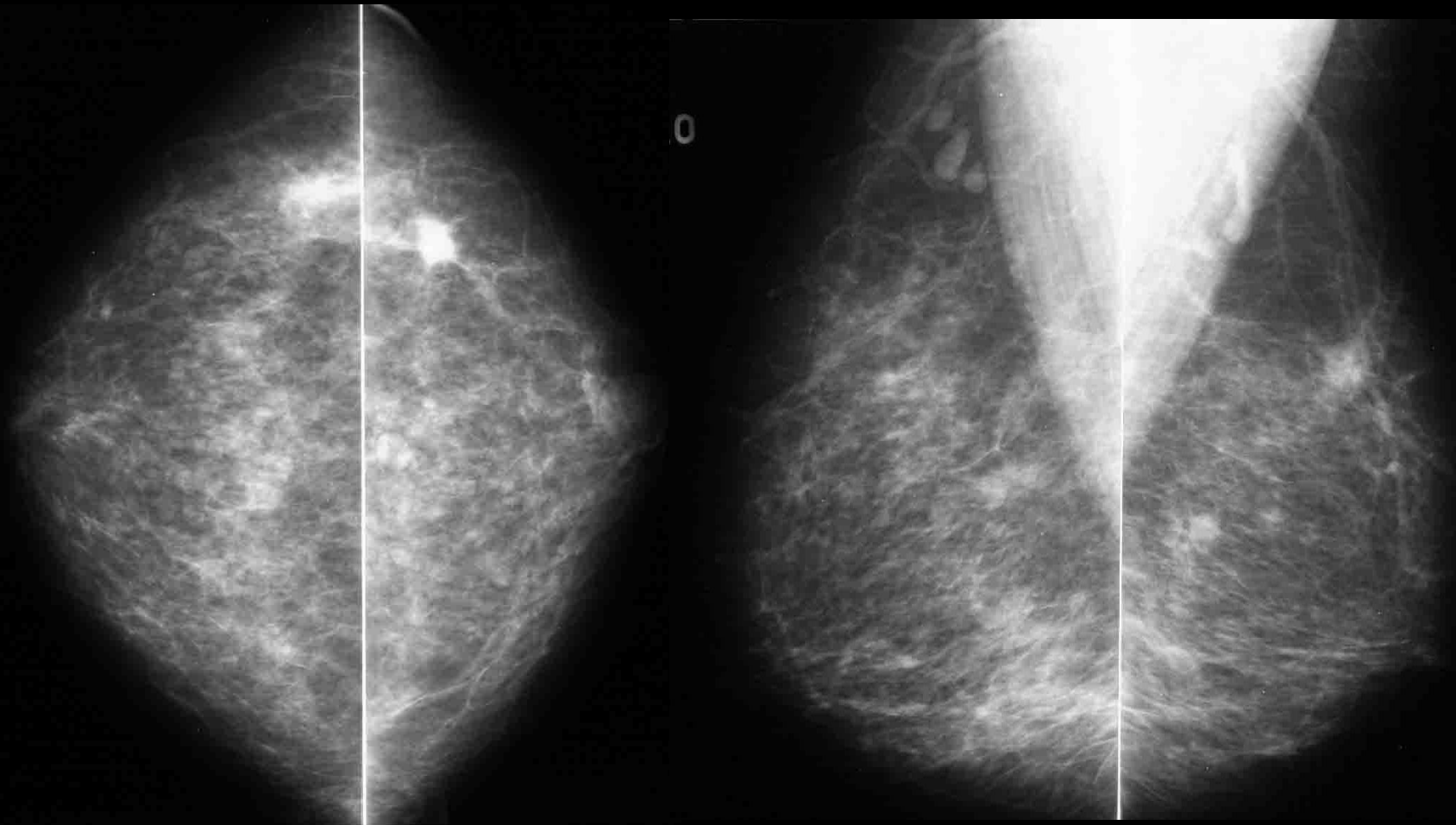
Mass and microcalcifications

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Mammographic findings of breast cancer

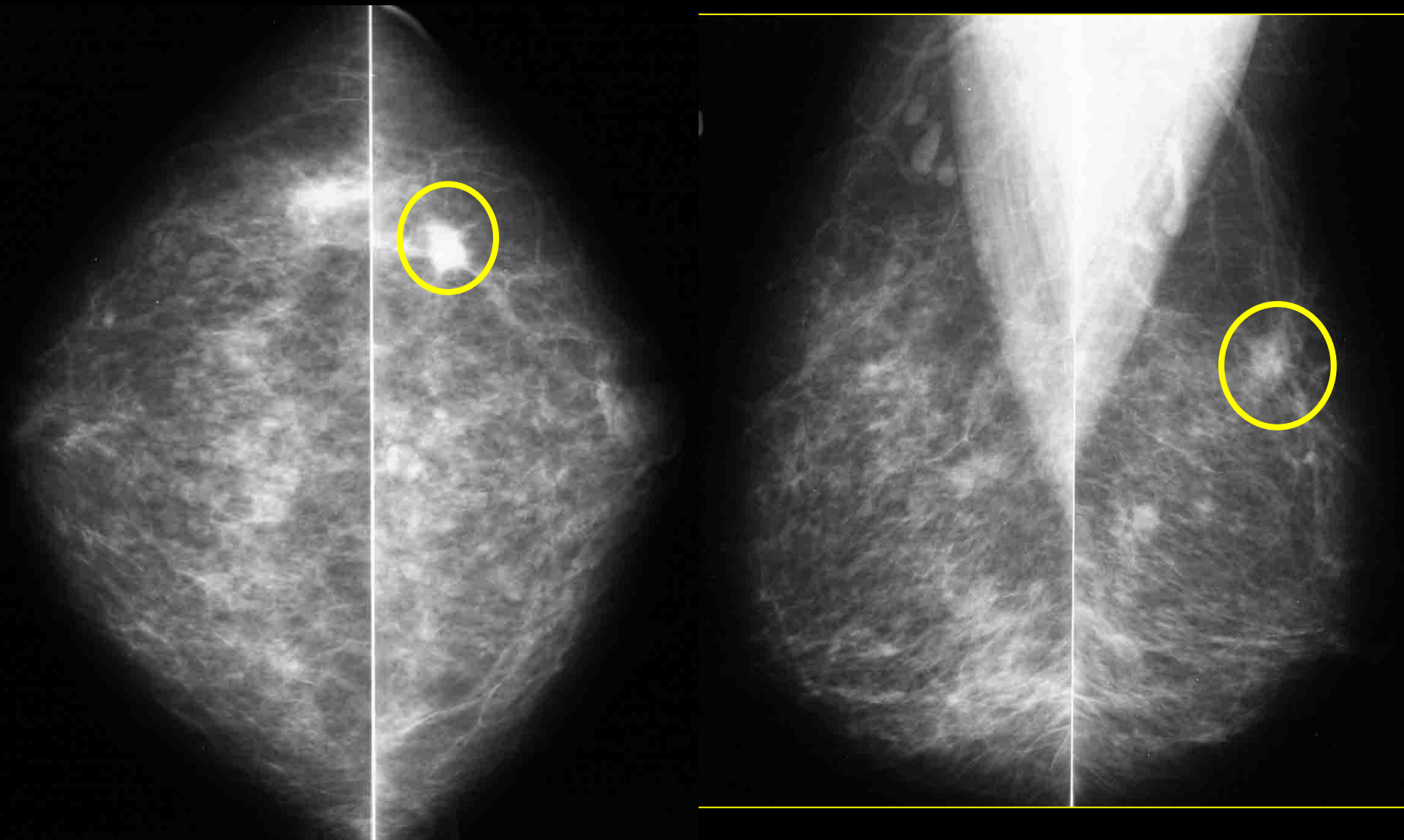
Mass

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Asymptomatic screening
mammogram

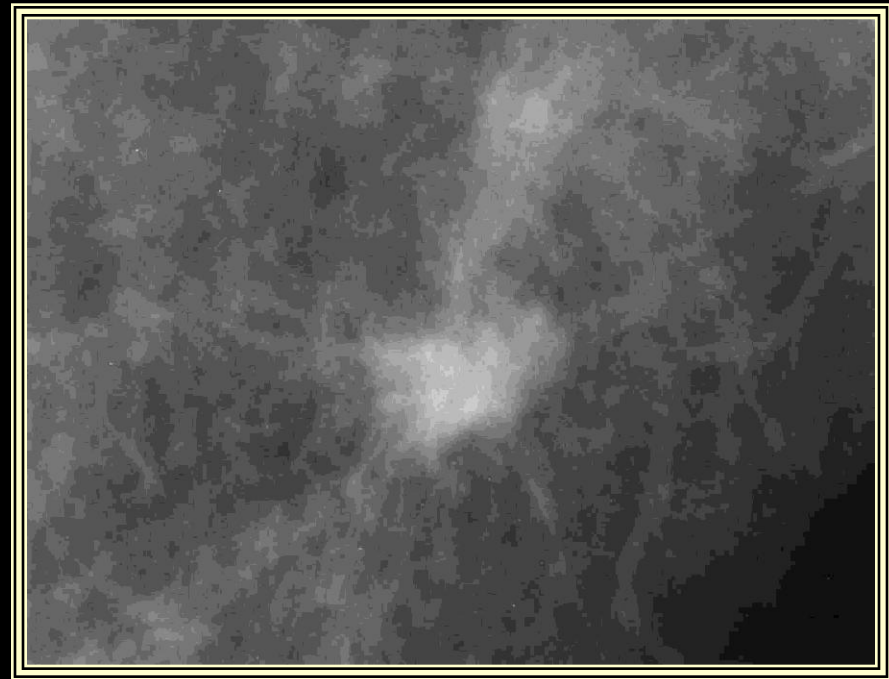
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Diagnosis:

**1.2 cm invasive ductal
carcinoma with
associated low
grade DCIS**

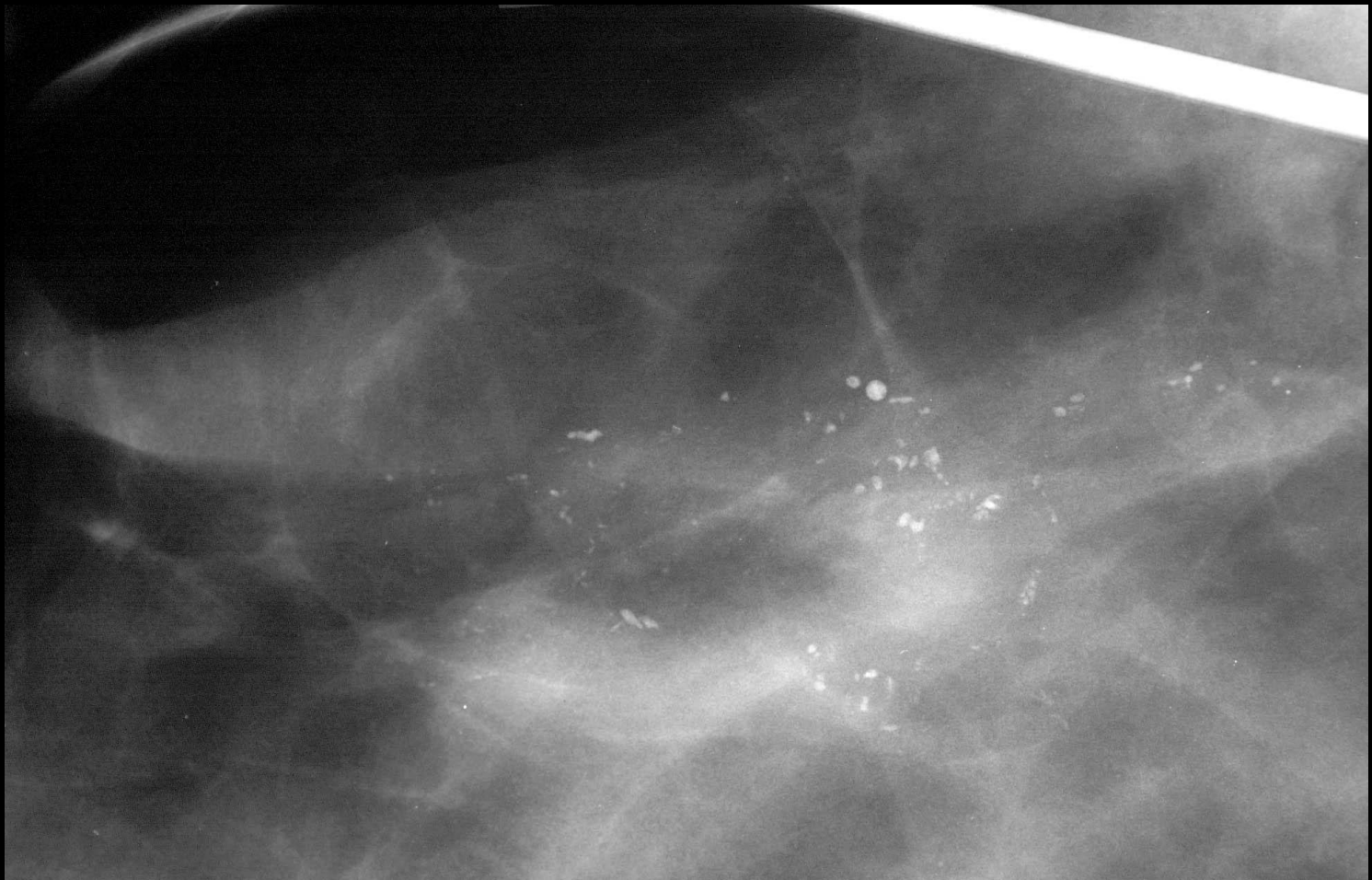


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Mammographic findings of breast cancer

Microcalcifications

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