

Breast Cancer:

A minimally invasive approach to the axilla

By

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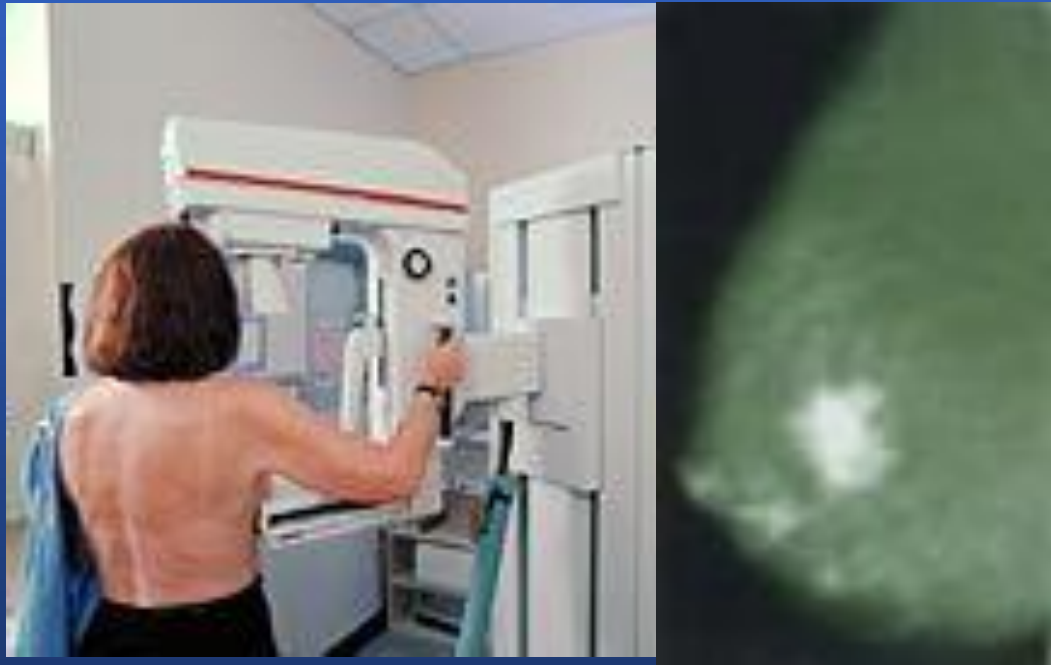
Introduction

- Establish the diagnosis
 - Evaluate for extent of disease
 - Plan stage appropriate individualised treatment
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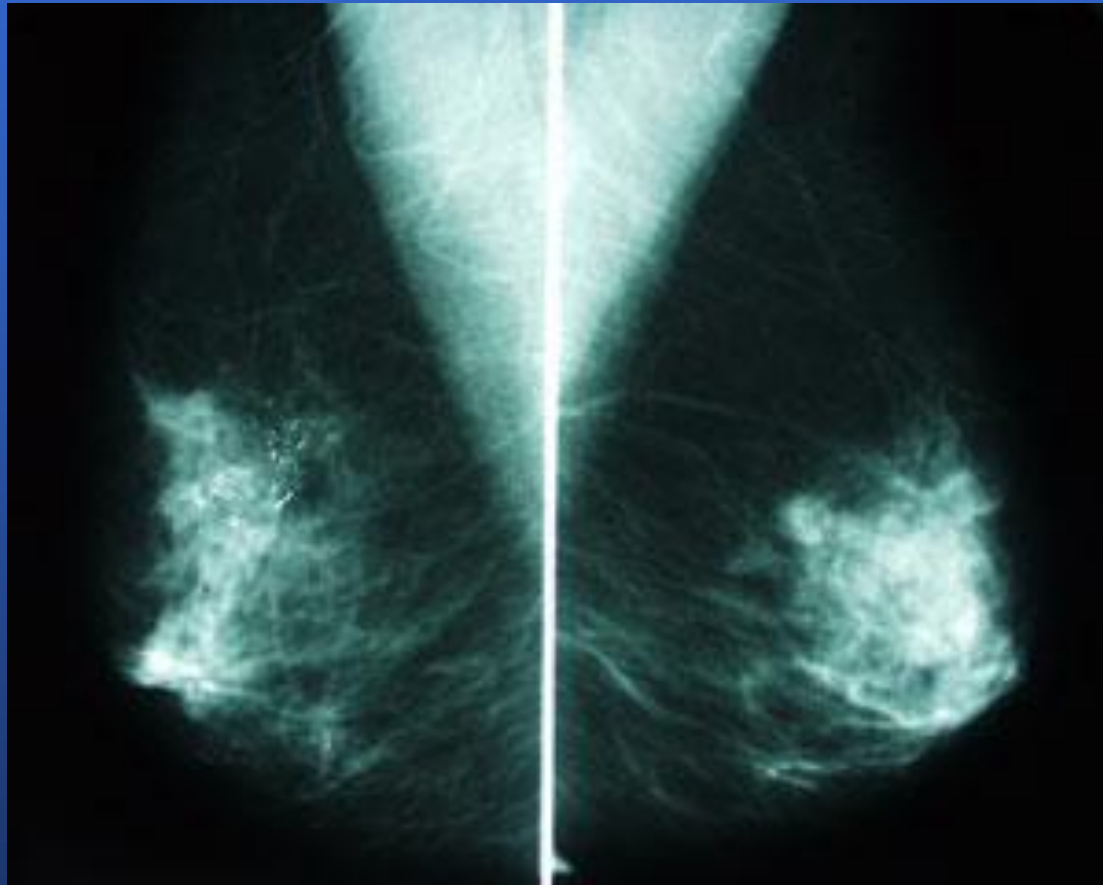
Patient pathway

- Fast track: one stop breast clinic
history and examination.
 - Clinical findings
 - Imaging
 - suspicious of breast cancer
 - axillary ultrasound
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Axillary Ultrasound



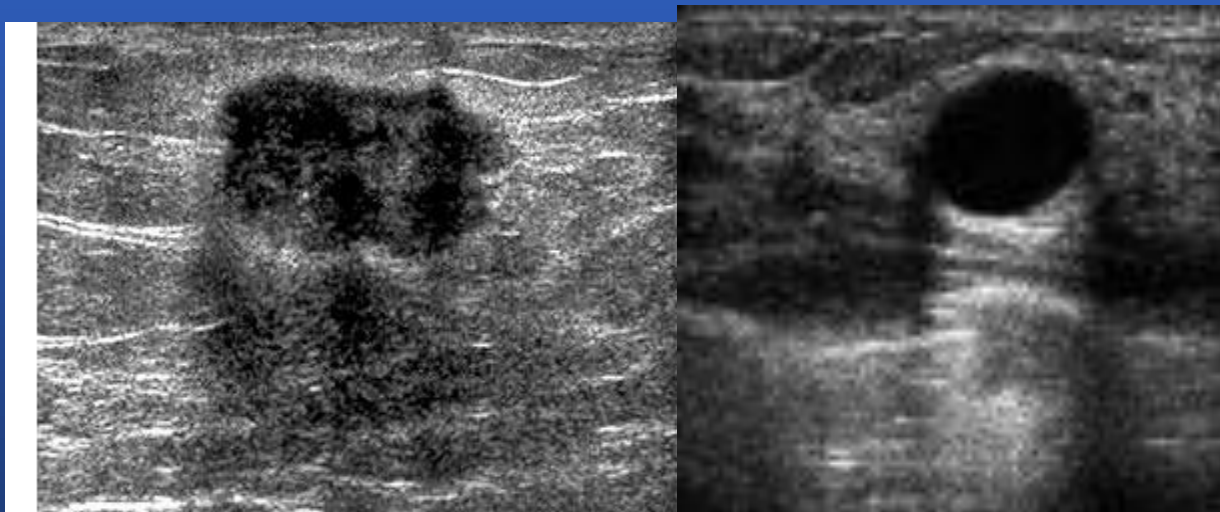
Ultrasound Pictures



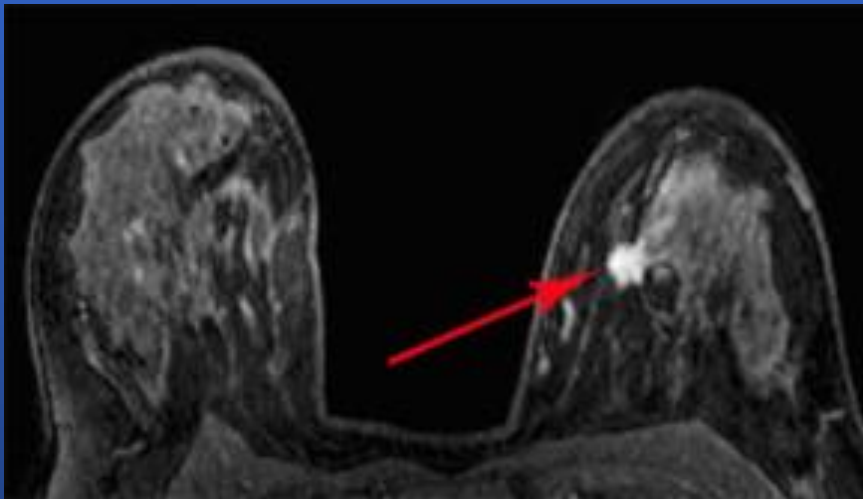
Examples of pathology



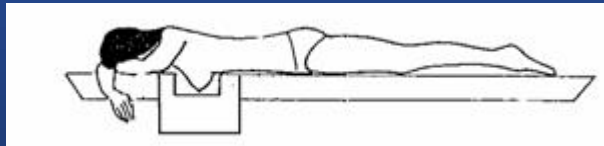
Breast Ultrasound



Breast MRI



➤ MRI guided biopsy



Extent of disease

- 95% of patients who present with breast cancer have apparently local disease.
- Indirect features to suggest systemic involvement
 - ✓ axillary lymph node metastasis
 - ✓ tumour size, grade
 - ✓ vascular or lymphatic invasion
 - ✓ Her2neu status or p53 etc

Preoperative evaluation of axilla

- Clinical examination inaccurate, false negative rate of 39-45%
 - Mammography/ultrasound
 - ✓ sensitivity of 70%
 - CT
 - MRI
 - PET
 - Ultrasound guided FNAC
-

Rationale for axillary surgery

- Status
 - Local control
 - Survival impact (B04) study
 - ✓ 10 years 5-6% worse
 - There is no tumour size so small that one can ignore the axilla
 - ✓ upto 20% for T1a
-

Issues with axillary clearance

- Maybe of limited therapeutic value
- 80% of patients maybe LN negative
- Short term drains, seroma
- Lymphoedema
- Sensory loss in area of intercostobrachial nerve
- affects the lifestyle of a third

Sentinel node concept

- First draining lymph node
 - reflects the status of the axilla
 - can be identified and sampled
-

SENTINEL NODE CONCEPT

- sentinel node refers to the "node on watch."
 - this node is the first node to receive cancer cells and that if this node is positive, there may be other positive nodes upstream.
 - The cancer cells don't "skip" and go to higher nodes.
 - If this node is negative, all the upstream nodes are negative 99 out of 100 times
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How We do it

- 35MBq of Tc99m in nanocoll 21hrs
 - injected subdermal
 - lymphoscintigram
 - examine with hand held probe
 - 2ml Patente bleu V on induction
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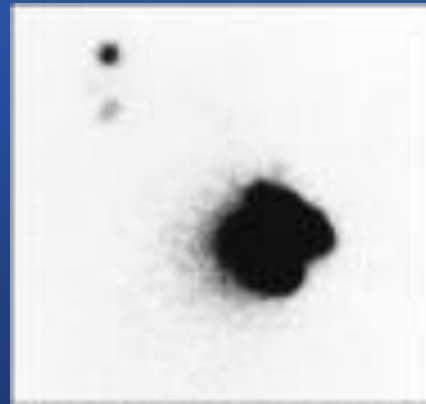
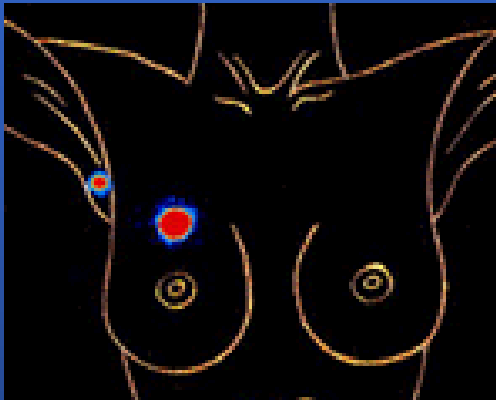


Figure 1. Lymphoscintigram, demonstrating two axillary lymphatic nodes with the largest one located in the left axilla.

Procedure



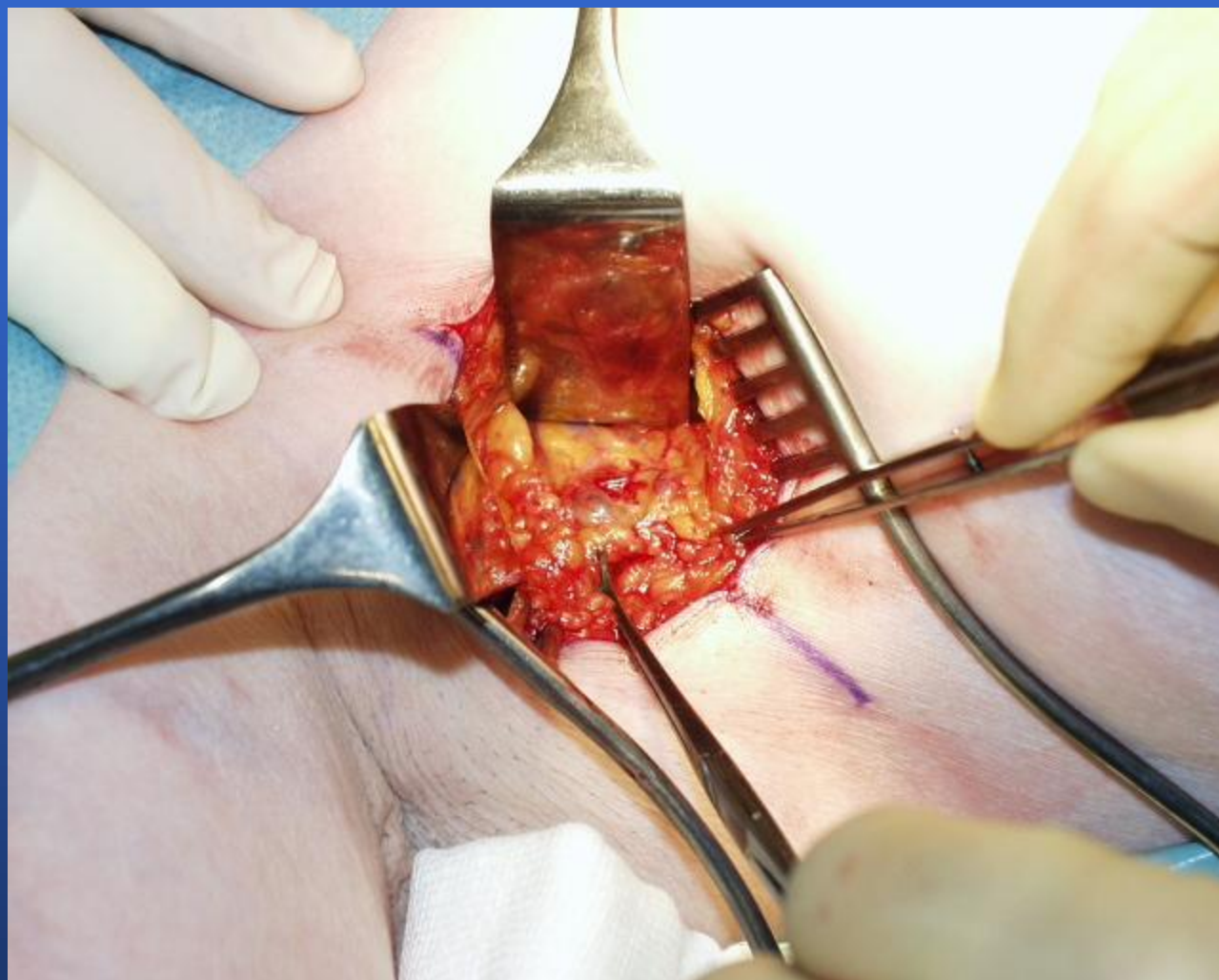
How We do it

- 2ml patent blue V
 - Clean drape and place incision
-

Further steps







BIOPSY





Practical point

After a crime, you don't interrogate a bunch of people who were two blocks away; you focus on eye witnesses at the scene of the crime."

—Marisa Weiss, M.D.

Poor candidates

- palpable lymph nodes
 - Locally advanced breast cancer
 - multi-focal breast cancer
 - previous breast surgery (including breast reduction)
 - previous radiation therapy to the breast
-

Can we stop after negative SNB

- Axillary relapse, most studies have median FU that is too short
- melanoma about 3-4%
- expect 1% for breast
- 0.4% at median fu of 84 months

Singhal 1996, MSKCC

Should you go back after SNB+

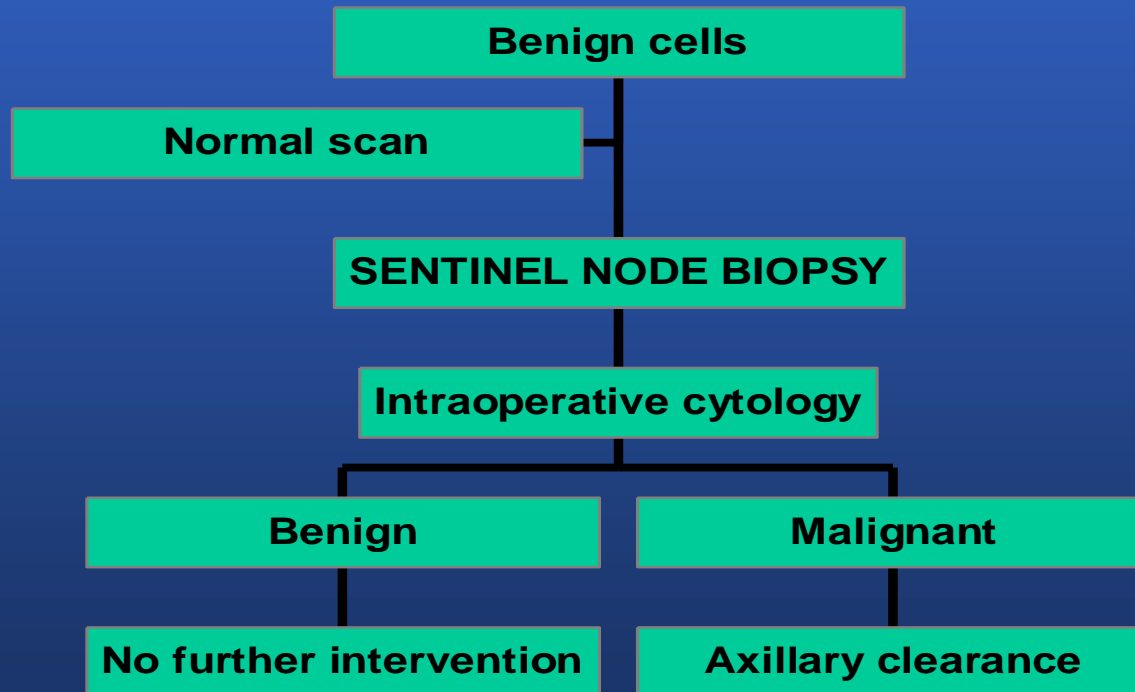
- 39% have further involved nodes
 - this may be obvious at first op
 - intraoperative analysis
 - ✓ cytology 10% false negative
 - ✓ frozen section
-

The important question

- "HOW MANY lymph nodes are positive?"
 - not just "ARE lymph nodes positive?"
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Sentinel Node Biopsy

SENTINEL NODE BIOPSY



Question

Can pre-operative axillary ultrasound help reduce the number of sentinel node biopsies for breast cancer.

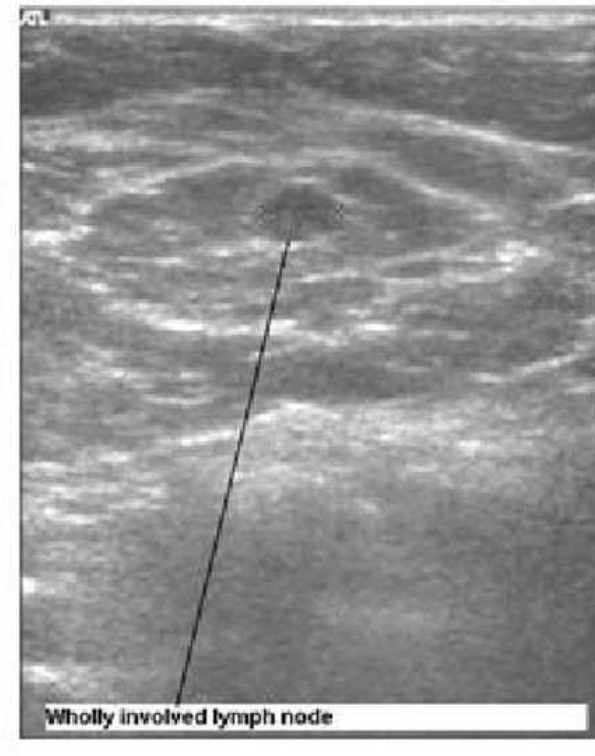
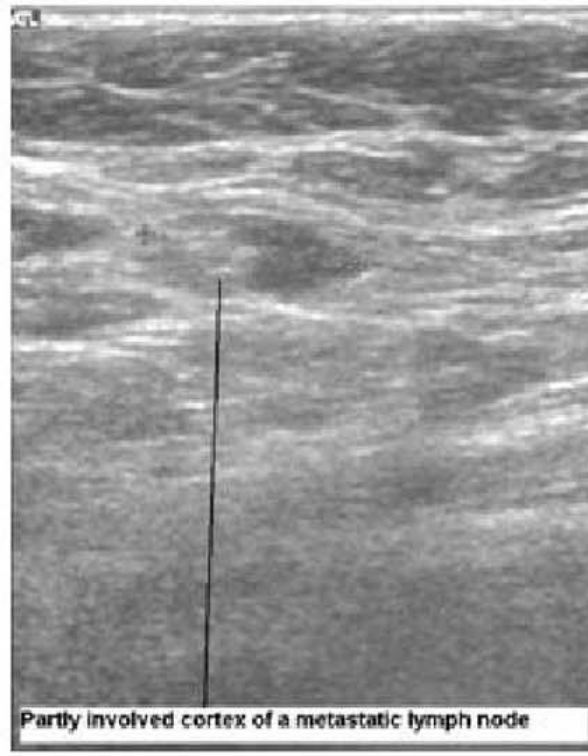
Patient selection

- 339 primary operable breast cancer cases (T1-3)
- Clinically node negative (N0).
- From June 2003- Feb 2006.

Radiological criteria of suspicious Axillary Lymph node

- Alteration of Cortico-medullary ratio.
- Cortical thickness more than 2mm.
- Totally replaced LN.

Axillary Ultrasound images



Normal ALN
ALN

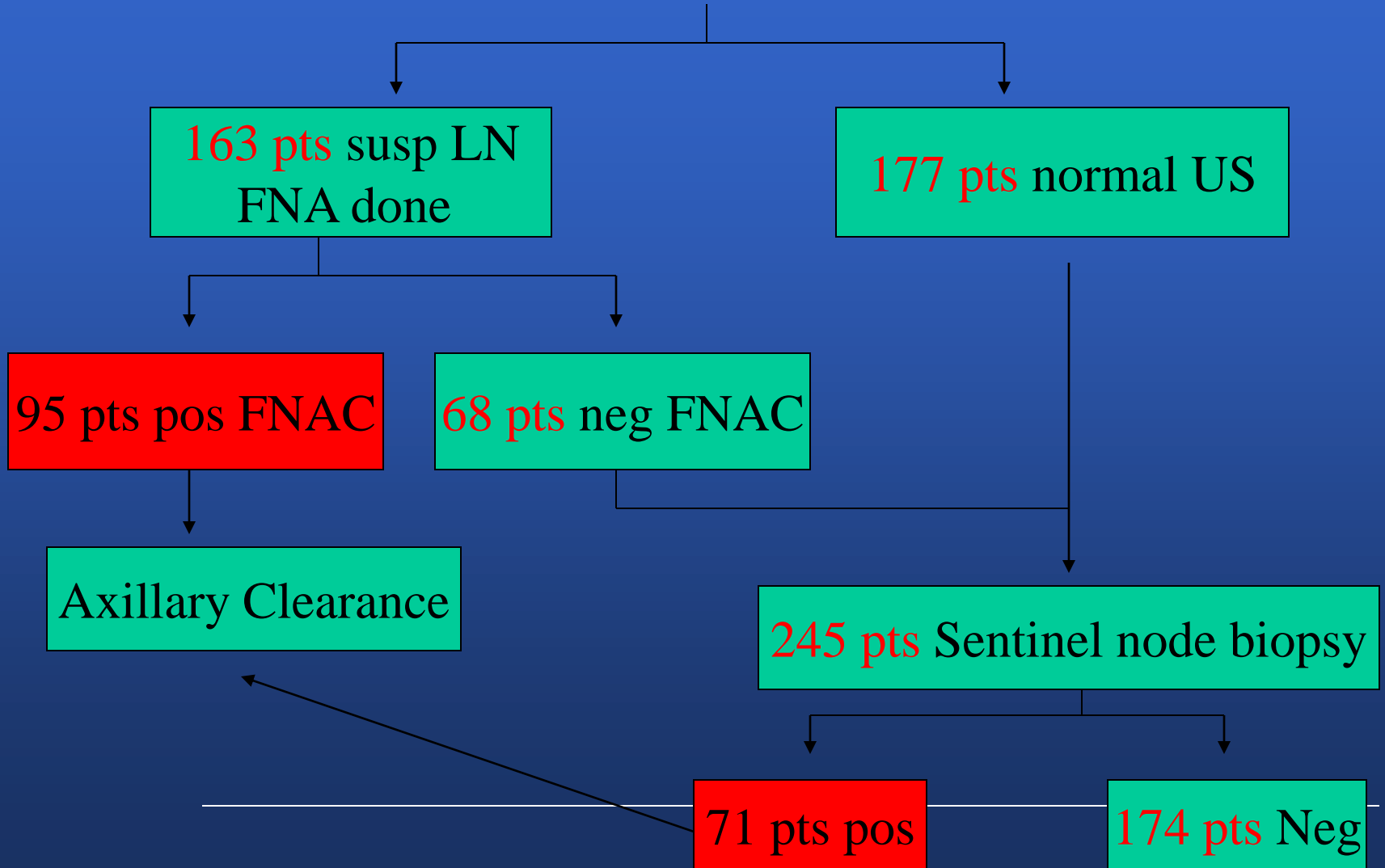
HEMANT SINGHAL

Partly involved ALN

ENDOSURGERY MARCH 2006

Fully involved

339 pts - AUS +/- FNAC



Results

Axillary ultrasound plus FNAC

False neg. rate	20%
Sensitivity	80%
Specificity	100%
Pos. Pred. Value	100%
Neg. Pred. Value	64%

Results

- SLNB reduced by 28% (95 /339 patients)
 - No False Positive FNAC.
 - No Delay or complications from FNAC.
-

Review of literature

➤ Sensitivity varies-

- ✓ Improves if multiple lymph nodes involved.

➤ Specificity-

- ✓ 100% in most series.
- ✓ False positives- In pts who had neo- adjuvant chemo.

➤ Reduction in SLNB- 14-18% approx.

Conclusion

- Pre-operative axillary ultrasound + FNAC
 - if positive, is an accurate staging method.
 - If negative, does not accurately rule out metastasis.
- Positive patients can proceed - Axillary dissection directly.
- Significant reduction of SLNB - 28%.
- Effective in cost and time saving.
- Way forward Part of standard axillary staging.



Evaluation

Axillary evaluation

