

A Decade of Experience of Intraoperative Analysis of the Sentinel Node in Breast Cancer

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Introduction

Sentinel Lymph Node Biopsy (SLNB) is now the Gold Standard method of staging the axilla in cases of breast cancer. The finding of a positive node requires further surgery.

The ability to analyze a node intraoperatively obviates the need for a second procedure at a later stage.

The Auckland Region has been performing intra-operative node analysis for over a decade. This study was to review the use of Sentinel Node Biopsy from 2000 until 2009 and examine the efficacy of intra-operative node analysis

Methods

A review of the Auckland Breast Cancer Study Group Database was performed. The primary outcomes were:

- Use of intra-operative sentinel node analysis
- Sensitivity
- Specificity

Intra-operative analysis was done by frozen section. All nodes went on to have conventional H&E staining in line with the SNAC Trial Protocol. Results of frozen section and conventional histology were reviewed at local MDT meetings and from this false positive and false negative rates calculated

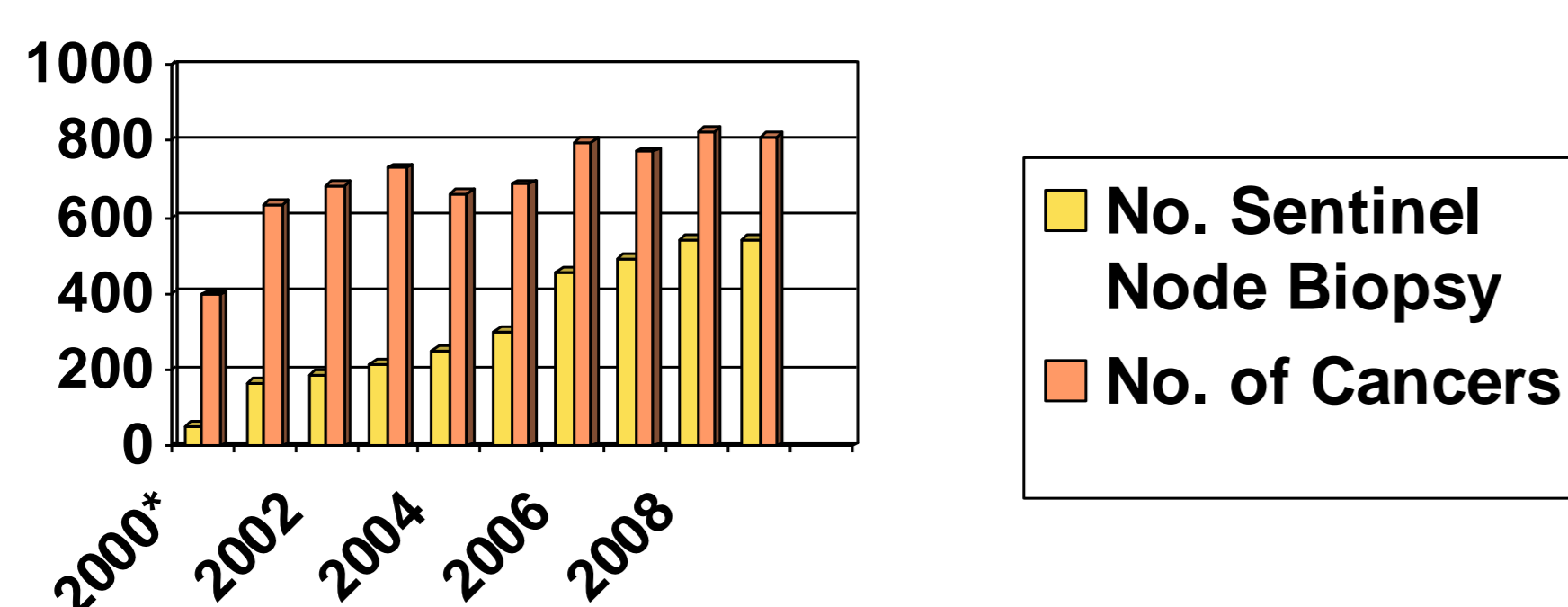
Auckland Breast Cancer Register

This is a Project of the Auckland Breast Cancer Study Group. Data has been collected on patients from Auckland Region since 2000 in both the public and private systems. All patients give informed consent and data is anonymous. We now achieve 90% data capture on cancers treated. Auckland is a city of 1.5 million people and is served by 3 main public hospitals, as well as smaller private institutions.

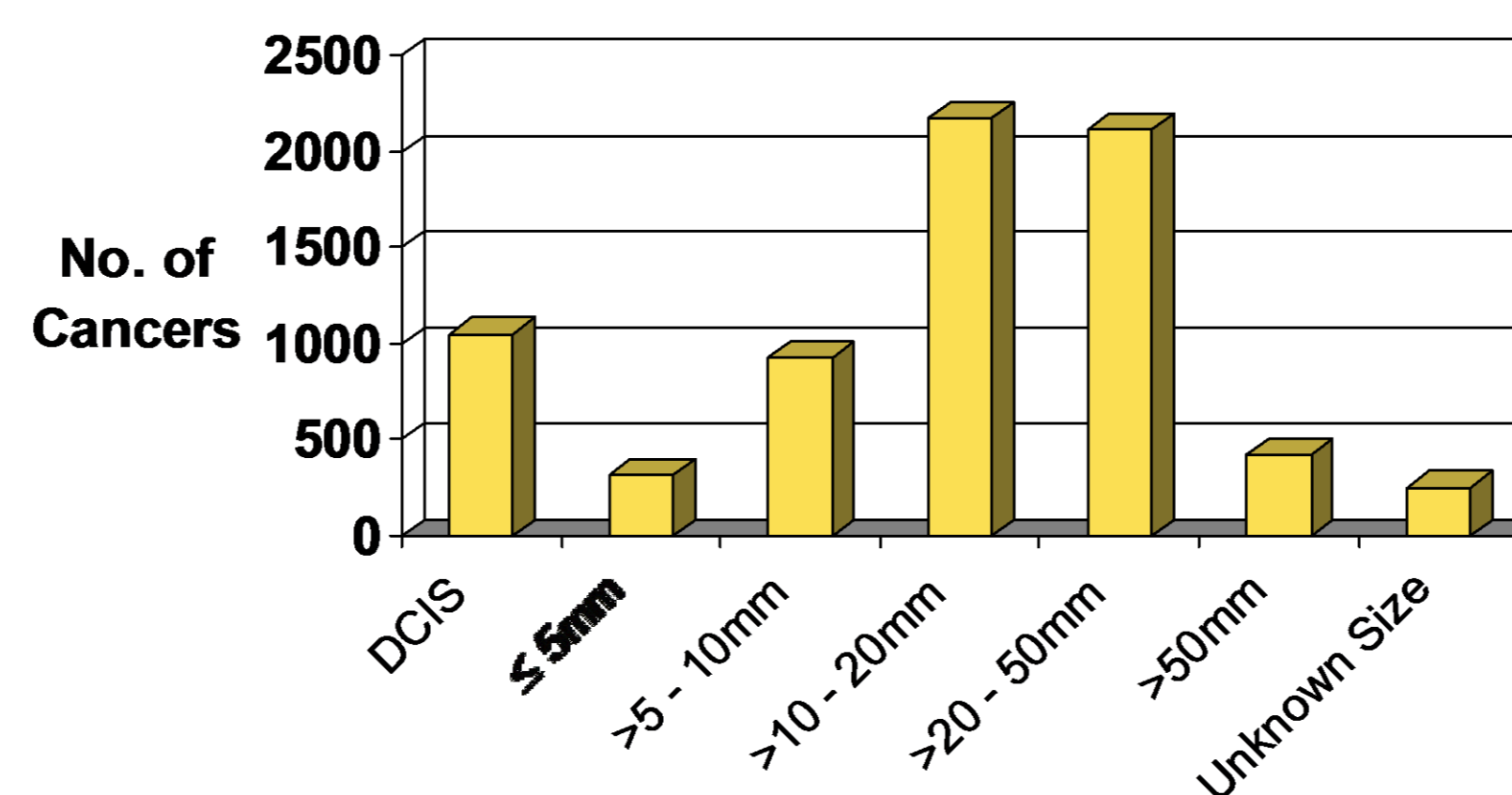
Results

During the study period 7248 cancers were treated and 3218 Sentinel Node biopsies were performed. Of these, 960 sentinel nodes were positive (29.8%) and patients went on to have axillary dissection. 804 were done immediately as a result of the frozen section result and 156 were done at a later date. During this time period 273 patients had axillary node dissection for node negative disease and 75 patients had axillary dissection without SLNB for node positive disease.

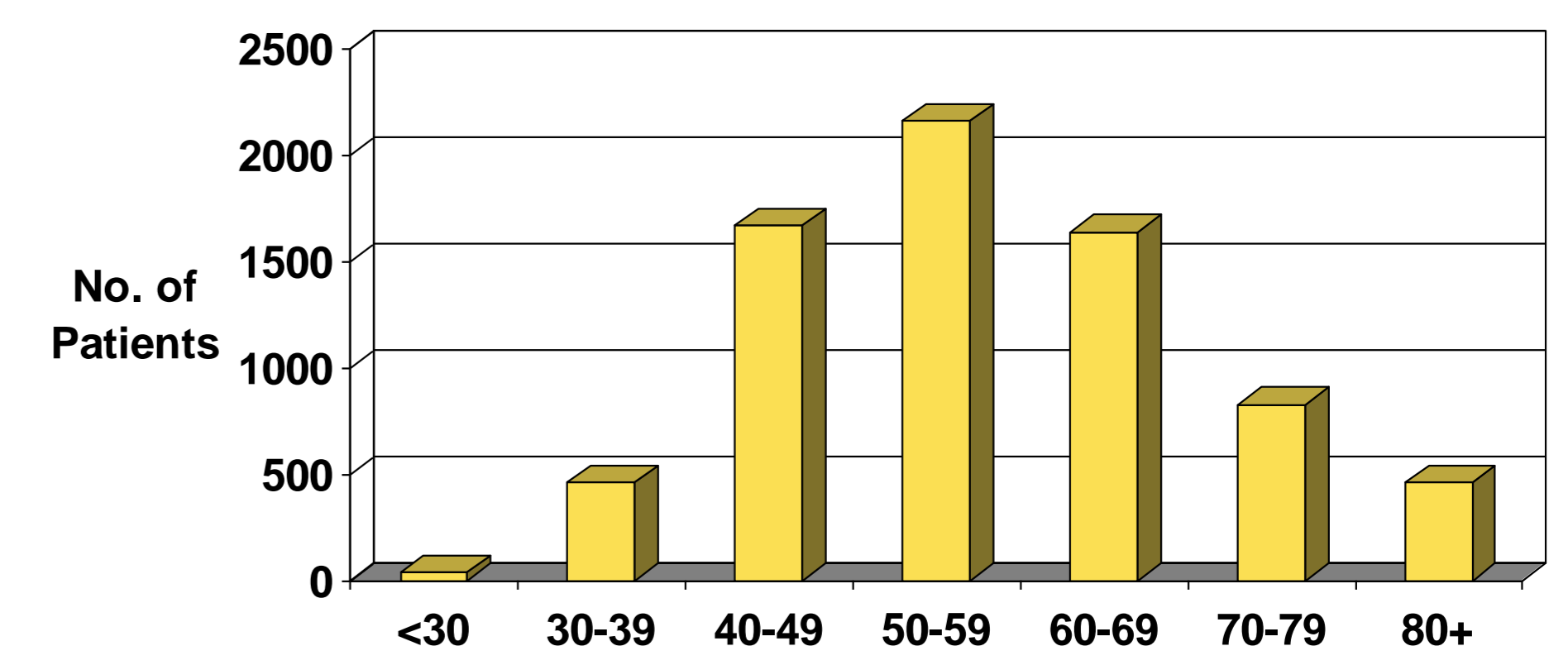
No. of Sentinel Node Biopsies & No. of Cancers by Year



Size of Tumours



Age of Patients



	Positive H&E	Negative H&E	
Positive intra-op analysis	804	0	804
Negative intra-op analysis	19	2259	2278
	823	2259	3082

19/823 SLNBs were negative on Frozen Section and positive on H&E, therefore:

Sensitivity = $785 / 804 = 97.6\%$

Negative predictive value 99%

0/823 SLNBs were positive on Frozen Section and negative on H&E, therefore:

False positive rate = 0

Specificity = 100%

Conclusions

Intra-operative sentinel node analysis by frozen section is both sensitive and specific. Widespread use of the technique can obviate need for second operation for many patients with a false positive rate of zero.