# Does Lobular Neoplasia Diagnosed on Core Biopsy Warrant Further Investigation?

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# Does Lobular Neoplasia Diagnosed on Core Biopsy Warrant Further Investigation?

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## Introduction

Lobular Neoplasia (LN) is an incidental finding on breast biopsy which represents a collection of round, monomorphic, dyshesive cells with increased cytoplasmic nuclear ratio. LN is classified as a range from Atypical Lobular Hyperplasia (ALH) to Lobular Carcinoma In-Situ (LCIS). These lesions are known to have an associated higher relative risk of subsequent carcinoma bilaterally (eight-to-nine fold and four-to-five fold increases for LCIS and ALH, respectively). While numerous past studies have shown a high upgrade rate to cancer of 10-40%, these studies may be limited. Newer studies show a rate of 1-3%. Institutional protocols have recently changed such that close clinical follow-up of LN is warranted instead of excisional biopsy.

## Problem Statement

By determining the baseline upgrade rate from LN on core biopsy to cancer at excision biopsy for women at Lehigh Valley Health Network (LVHN), we can compare to the upgrade rate in recent literature and have a better understanding of the risks of LN within the LVHN population.

## Methodology

This study is a retrospective review of 27 months of stereotactic and ultrasound guided core biopsies. Biopsy cases were identified through logs kept by radiology technicians at Breast Health Services at LVHN. Cases were determined to be ineligible for the study if a biopsy was started but not completed or if the procedure was a cyst or hematoma drainage. Each case was reviewed for LN within the pathology report of the Electronic Medical Record (EMR). LN was noted if it was found to be the highest-risk lesion on core biopsy. If LN was found, the case was then checked for a follow-up surgical excisional biopsy. If there was an excisional biopsy, it was determined whether the lesion was upgraded to cancer according to the pathology report within the EMR. This study was determined by the project team to be exempt from Internal Review Board (IRB) approval because it was recorded in such a manner where subjects cannot be identified, it has no risk to patients, it involves the collection of existing data, and it seeks to improve the management of LN at LVHN while comparing to the established standard.

## Results

A total of 1271 patient cases were reviewed from the radiology technician log. Females comprised 97.7% of patients. Ultrasound biopsy guidance was performed in 75% of cases compared with 25% using stereotactic (Table 1, Figure 1). Biopsy was not performed on 67 cases, and core biopsy results were reviewed in 1204 cases. LN as the highest-risk lesion was found in 15 cases (4 were LCIS and 11 were ALH), equivalent to 1.3% of all cases (Table 2). Of the 15 cases with LN, 12 elected to have excisional biopsy at LVHN of which 2 (17%) were upgraded to a cancer diagnosis (Table 3).

**Table 1. Demographic Data and Baseline Characteristics**

| Parameter | Sample (N=1271) % (N) |
|---|---|
| Gender | |
| Female | 99.7 (1267) |
| Male | 0.3 (4) |
| Biopsy Guidance Method | |
| Sonographic | 75 (957) |
| Stereotactic | 25 (314) |

**Table 2. Core Biopsy Results**

| Parameter | Sample (N=1204) % (N) |
|---|---|
| Results of Core Biopsy | |
| Not Lobular Neoplasia* | 98.7 (1185) |
| Concordant Lobular Neoplasia | 1.3 (15) |
| ALH | 0.9 (11) |
| LCIS | 0.3 (4) |

*Either no LN, or LN is compounded by a worse non-benign lesion of the breast.

**Table 2. Excisional Biopsy Results of Lesions with LN**

| Parameter | Sample (N=12) % (N) |
|---|---|
| Preoperative Diagnosis (core biopsy) | |
| ALH | 75 (9) |
| LCIS | 25 (3) |
| Postoperative Diagnosis (excisional biopsy) | |
| Cancer (upgrade) | 17/(2) |
| Same as preoperative diagnosis (no upgrade) | 83 (10) |

**Figure 1.** Consort Diagram

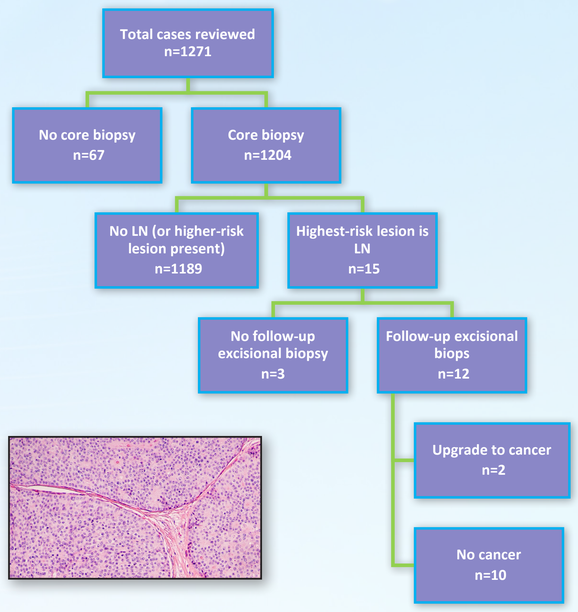
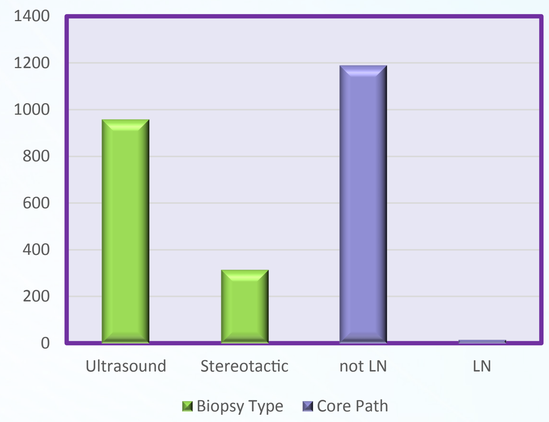
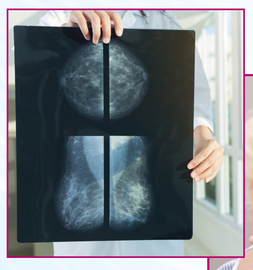



**Figure 2.** Biopsy Type and Core Pathology Results



## Conclusions and Future Implications

There is no clear consensus regarding the implications of LN and future management when it is the highest-risk lesion found at core biopsy. The patients in this study had core biopsies with LN as the highest-risk lesion in 15 cases, or 1.3% of cases, which is on-par with past studies (between 0.5 and 3.8%). Out of LN cases that underwent excisional biopsy, upgrade to cancer occurred in 2 (17%). While this is high, these 2 cases would heavily favor excision regardless of the diagnosis of LN due to discordant imaging and pathology. Overall, these results support the current protocol of close imaging follow-up, and further discussion in accordance with the patient's goals.



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