Is Microductectomy Still Necessary To Diagnose Breast Cancer?

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Background

Nipple discharge is the third most common symptom referred to breast clinics next to palpable masses and pain which account for 10% of surgical referrals.

Spontaneous nipple discharge is a symptom of malignancy in up to 12% of breast cancers and requires appropriate investigations to differentiate malignant from benign diseases with a focused ultrasound and/or mammogram.

Patients with suspicious nipple discharge who have neither palpable masses nor evidence of disease on imaging have traditionally been investigated with galactogram and duct excision to exclude the diagnose of cancer and prevent ongoing drainage.

Rationale

The majority of women who undergo surgical evaluation for nipple discharge have benign disease. Thus, a high proportion of patients must complete an invasive procedure to rule out cancer. As imaging modalities have continued to improve it has raised the question whether microductectomy is still necessary to diagnose breast cancer.

Purpose

The purpose of this study is to determine the incidence of breast cancer detected by microductectomy in patients presenting with spontaneous discharge whose initial clinical and radiological investigations were inconclusive.

Figure #1: Incidence of Benign and Malignant Disease Detected by Microductectomy

Pathology	Percentage	# Patients
Intraductal Papilloma	54%	119
Duct Ectasia	10%	21
Benign (Other)	23%	50
Ductal Carcinoma <i>In Situ</i>	10%	22
Invasive Carcinoma	3%	6
Total	100%	219

Methods

A retrospective chart review was performed for all patients who underwent a microductectomy procedure at Mount St. Joseph's Hospital Breast Clinic – British Columbia's largest breast centers between January 2009 to December 2016.

Mount St. Joseph's Hospital

Pathology reports were reviewed to determine the incidence of:

1. Benign (normal / inflammatory / hyperplasia)
2. Duct Ectasia
3. Intraductal Papilloma
4. Breast cancer (Ductal Carcinoma In Situ [DCIS] and Invasive carcinoma)

Results

Between 2009 and 2016 a total of 219 microductectomy procedures were performed for women with spontaneous discharge:

1. The majority of women presenting with spontaneous nipple discharge have benign disease.
2. Intraductal papilloma is the most common reason for discharge representing over half of the women studied.
3. Invasive carcinoma and ductal carcinoma in situ - although the minority – was detected in 13% of women who underwent a microductectomy.

Conclusions and Future Directions

Patients presenting with spontaneous nipple discharge should continue to undergo a microductectomy when initial work up with mammogram and ultrasound are non-diagnostic to avoid missing an early diagnosis of carcinoma and to relieve the symptom of nipple discharge.

Future studies examining the role of adjunctive imaging modalities including magnetic resonance imaging (MRI) should be investigated to determine whether it can be used to detect breast cancer in patients whose initial ultrasound and mammogram are negative prior to microductectomy.

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