

OVERUTILIZATION OF DIAGNOSTIC BREAST IMAGING FOR BREAST PAIN IN SCREEN-ELIGIBLE PATIENTS

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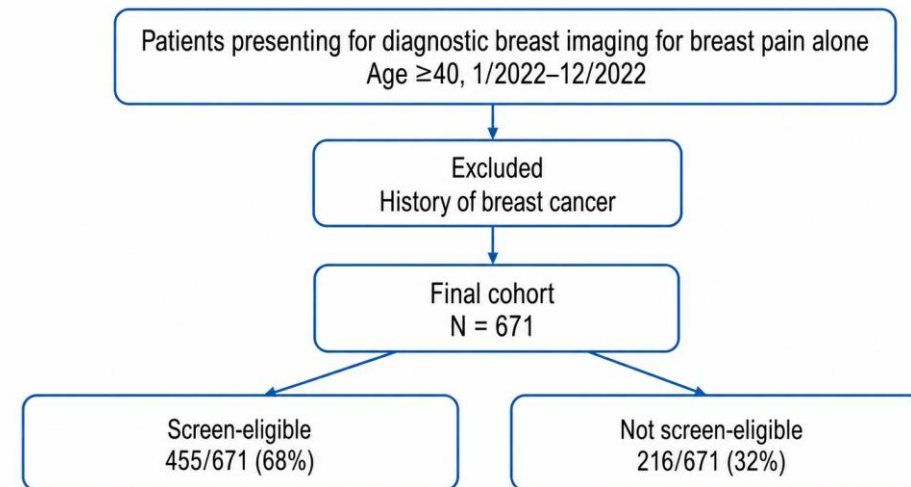
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Background

- Breast pain is a commonly reported symptom but is rarely associated with breast cancer.¹
- As such, performing diagnostic breast imaging for women with breast pain alone represents an overutilization of healthcare resources.²
- We aim to assess resource utilization and screening eligibility among patients age 40 and older undergoing diagnostic breast imaging for breast pain alone, and to evaluate clinical characteristics and outcomes.

Materials & Methods

- We retrospectively reviewed 671 patients age 40 and older without a history of breast cancer who underwent diagnostic breast imaging for breast pain alone at our institution from 1/2022 to 12/2022.
- Patients were considered eligible for screening if no prior mammograms were available in our PACS system or their most recent bilateral mammogram was more than 12 months prior to presentation



Results

- At time of imaging, 68% (455/671) of patients were eligible for screening mammogram.
- Most patients (84%; 564/671) were given BI-RADS 1 or 2.
- 64 patients were given BI-RADS 3, half for ultrasound-only findings.
- 48 findings in 43 patients were recommended for biopsy (BI-RADS 4), with seven malignancies identified (2 invasive ductal carcinoma (IDC), 4 ductal carcinoma in situ (DCIS), 1 implant-associated lymphoma).
- All IDC/DCIS cases had mammographic findings and were in screen-eligible patients, with half having no prior mammograms available.
- The patient with implant-associated lymphoma had a recent negative screening mammogram and only underwent ultrasound at time of evaluation.
- Among 475 patients given BI-RADS 1, 2 or 3 with at least one-year follow-up, only one malignancy was diagnosed within one year of breast pain presentation - a mammographic finding initially given BI-RADS 3 recommended for biopsy at time of first follow-up with pathology demonstrating DCIS.

	Mammogram Findings	Ultrasound Only Finding
BI-RADS 3 (n=64 patients)	32	32
BI-RADS 4 (n=48 biopsies)	<ul style="list-style-type: none"> ➤ 22 : benign ➤ 4 : DCIS ➤ 2 : IDC ➤ 4 : high risk (3 benign on excision, 1 upstaged to DCIS on excision) ➤ 1 : lost to follow-up ➤ 1 : not seen at time of biopsy 	<ul style="list-style-type: none"> ➤ 10 : benign ➤ 2 : high risk, benign on excision ➤ 1: implant-associated lymphoma ➤ 1: not seen at time of biopsy

Imaging Resources Utilized for 671 Patients with Breast Pain Alone

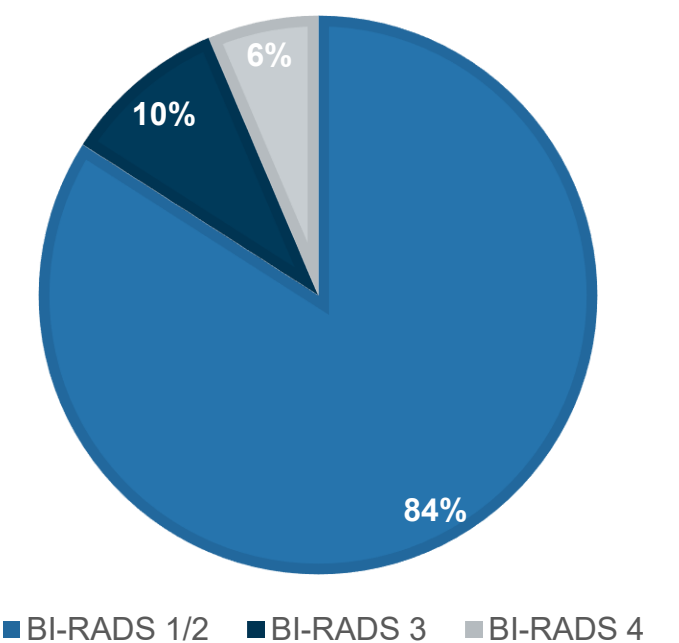
Note: Totals exceed 671 patients because some patients underwent both mammography and ultrasound.

Imaging Modality	Bilateral (n)	Unilateral (n)	Total (n)
Diagnostic mammogram	533	70	603
Diagnostic breast ultrasound	209	439	648

Conclusion

- Performing diagnostic breast imaging for breast pain alone in patients who are eligible for screening mammography leads to overutilization of healthcare resources without finding additional cancers.
- Patients with breast pain should first undergo screening mammography if eligible, with diagnostic breast ultrasound reserved for patients at risk for implant-associated lymphoma

OVERALL BI-RADS ASSESSMENT



REFERENCES

- Mohallem Fonseca M, Lamb LR, Verma R, Ogunkinle O, Seely JM. Breast pain and cancer: should we continue to work-up isolated breast pain?. Breast Cancer Res Treat. 2019;177(3):619-627.
- Kushwaha AC, Shin K, Kalambo M, et al. Overutilization of Health Care Resources for Breast Pain. AJR Am J Roentgenol. 2018;211(1):217-223.