ORIGINAL ARTICLE

BREAST BIOPSY LESION CONCORDANCE/DISCORDANCE: CHALLENGES IN MEETING REPORTING STANDARDS IN THE THIRD WORLD

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ABSTRACT

INTRODUCTION: Percutaneous ultrasound guided breast biopsy has become the standard for diagnosis benign and malignant breast lesions. This modality closely shares its false negative rates with open surgical biopsy.[1,2] However, the possibility of discordance between breast imaging and final pathological diagnosis can occur.[3] Our aim is to detect the compliance rate of imaging-pathology concordance/discordance documentation in our tertiary care unitand to evaluate the concordance and discordance between imaging and histopathology of ultrasound-guided breast biopsy. **METHOD:** We included patients who underwent breast biopsies performed at the tertiary unit. The first audit cycle was conducted retrospectively, between 1st April 2019 to 19th June 2019. Compliance was measured as added addendums to biopsy reports, confirming the histopathological result and correlation with imaging. A manual alerting system for flagging up the availability of pathology reports was implemented. The second cycle was performed from 1st October 2019 to 31st December 2019. **RESULTS:** Out of the total 58 biopsies performed in the first cycle, 26 (44%) had report addendums added for pathology-histology concordance/discordance. Postintervention, this compliance increased, with 96 of the 115 biopsies having added addendums (80.8%).Regarding histopathology results 25% breast biopsy results were dis-concordant, most of which are dis-concordant benign. **CONCLUSION:** The compliance increased significantly by creating awareness and alert system for adding addendum to breast biopsy reports after the first audit results. Regarding concordance and discordance imaging and histopathology results out of 81 BI-RADS IV cases, 30 cases were further categorized which is only 37%.Which require further improvement.

Key words: Addendums, breast biopsy, concordance/discordance

Introduction

Percutaneous ultrasound guided breast biopsy has become the most important method to obtain the sample for diagnosing breast pathology.[1] According to few studies, the false-negative rate of ultrasound guided core needle biopsy ranges from 0.1% to 3.7%, which is closer to that of open surgical biopsy.[1,2] The success rate of getting the optimum sample during ultrasound guided breast biopsy mainly depends upon the performance and technique of biopsy procedure. Still there is this possibility that any ultrasound guided core biopsy of breast lesion may fail to obtain the optimum sample of the lesion despite optimum sampling technique. (Fig.1) shows the right technique of getting biopsy from breast lesion. Correlation of histopathological result with the imaging features after biopsy is useful to validate the biopsy result and to offer sub-

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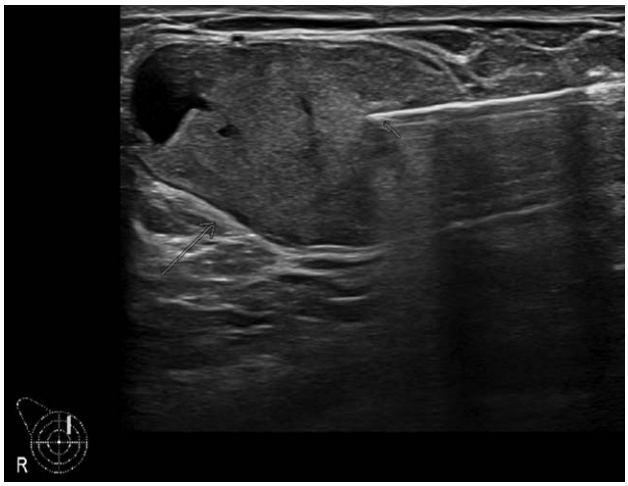

Figure 1: Ultrasound guided biopsy of right breast lesion at 1.00. Short arrows pointing towards the tip of needle within lesion and long arrows shows solid lesion with cystic spaces.

sequent management. Parikh and his team showed various possible outcomes in their study based on the concordance or discordance between imaging and histopathological features and divided them into multiple categories. According to this study, categories include:[3]

Category 1. Concordant Malignancy: This category includes BI-RADS 4 or 5 lesions and are diagnosed to be malignant on histopathology result after core biopsy, appropriate action should be taken without delay.

Category 2. Discordant Malignancy: This category includes BI-RADS 2 or 3 lesions but are diagnosed to be malignant on histopathology result. Management should be similar to that of the category 1.

Category 3. Concordant Benign: This category includes BI-RADS 2, 3 or 4a lesions and are diagnosed to be benign on histopathology result after core biopsy. In these cases, although there is assurance that lesion is not malignant, however imaging follow-up should be done to be on same safe side.

Category 4. Discordant Benign: This category includes BI-RADS 4 or 5 lesions but are diagnosed to be benign on histopathology result after core biopsy. Therefore, in this case contact should be made with primary physician and histopathologist in order to discuss the need for repeat biopsy.[4,5]

The audit was conducted as we add addendums in report manually. We do not have an automated alert when the patient biopsy report is issued, the aim was to determine the compliance for mentioning concordance and dis-concordance in the radiology report as an addendum with a target of 100% compliance, and to identify issues and rectify them if 100% compliance is not achieved and reaudit the topic after implementing changes.

Method

A retrospective study, at Radiology Aga Khan University Hospital (AKUH), Karachi, Pakistan. The audit was performed in two phases, all biopsies performed between 1st April 2019 to 19th June 2019 (first cycle) and from 1st October 2019 to 31st Decem-ber 2019 (second cycle). Patients with ultrasound guided breast biopsy and breast imaging done from AKUH. Patients having no imaging from AKUH prior to biopsy.

The results were presented in percentages.

Results

The results of first phase: Total number of breast biopsy: 58, total number of addendums added: 26, percentage compliance: 44%. The results of second phase:Total number of breast biopsy: 115, total number of addendums added: 96, percentage compliance: 80.8%.
The histopathology and radiology report shows 28 Disconcordant Benign,1 Disconcordant Malignant, 62 Concordant Malignant and 24 Concordant Benign lesions.
This shows that 25% breast biopsy results were disconcordant, most of which are Disconcordant benign.

Discussion

Since compliance was only 44%, the issues/problems were discussed among breast radiologist; they were

also presented in departmental audit meeting. Following are the Issues/problems that were discussed: No set time for biopsy results for dispatching. No automated system to trace biopsies done by each radiologist. No automated system to trace the biopsy histopathology results. No separate time allocation for searching results and putting addendums. It was decided to put addendums on regular basis and do a re-audit in last quarter of 2019. The compliance increased to 80.8% in second phase, almost double increase (previously 44%) in compliance but still not 100%. Increased number of disconcordant benign result can be reduced by further categorization BI-RADS 4 lesion into 4a, 4b and 4c. As mentioned previously the BI-RADS 4a lesions are considered concordant if these are benign on histopathology. From our result, out of 81 BIRADS 4 cases, 30 cases were further categorized which is only 37%, this requires further improvement., another recommendation is to develop an automated system of biopsy tracing for individual radiologist and to develop alert system when biopsy results are dispatched from histopathology.

Conclusion

The compliance increased significantly by creating awareness and alert system for adding addendum to breast biopsy reports after the first audit results.

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