

# CAN PATHOLOGICAL BREAST CANCER GRADE BE SUGGESTED DEPENDING UPON U/S AND MAMMOGRAPHIC MORPHOLOGICAL FEATURES?

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## Introduction

Breast cancer is the leading cause of death among women around the world. Mammography and ultrasound are the main imaging diagnostic tools of detection and diagnosis of breast cancer. Diagnosis by ultrasound and mammogram depends mainly on the BI-RADS system assigned by the ACR which depends mainly on the morphological features (shape, margins, orientation, echo-pattern, calcifications and associated posterior features). Pathological tumor grades are used to determine the type of management of patients with breast cancer. The purpose of our study to predict tumor grade in patients with breast cancer from sono-mammographic morphological features (shape, margins, calcifications, orientation and associated posterior features).

## Aim of the work

The aim of this study is to correlate ultrasound and mammographic morphological features with pathological tumor grade.

## Patients

The study carried out on 57 patients histo-pathologically diagnosed as having malignant breast lesions referred to breast imaging unit at Main Alexandria university and Gamal Abd El Nasser hospitals for dedicated full field digital mammography (FFDM) and sono-mammographic and assessment.

## Methods

**All patients were subjected to the following scheme:**

A focused history and physical examination.

Breast and axillae examination.

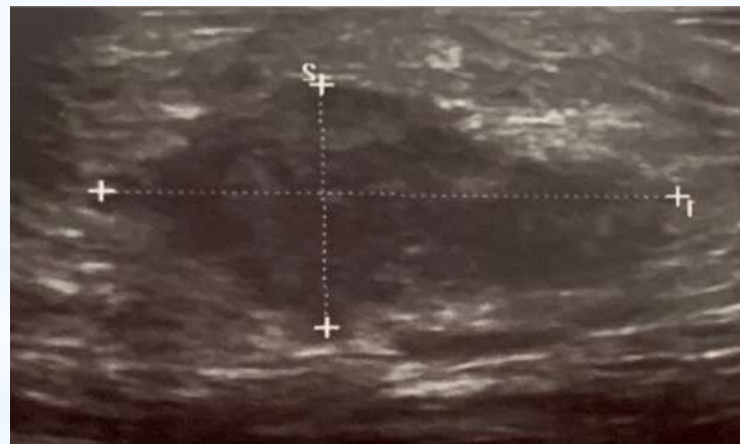
Imaging evaluation including: diagnostic mammogram of both breasts and 2D breast ultrasound.

Ultrasound guided Tru cut needle biopsy

Histo-pathological examination and tumor grade

## Results

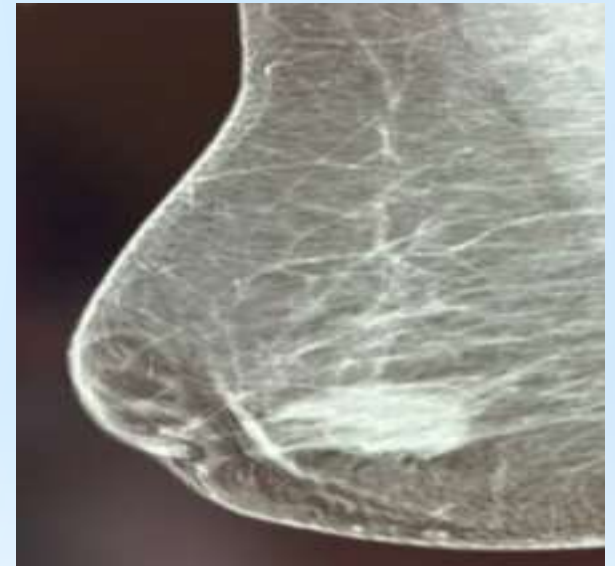
The fifty-seven patients were distributed according to tumor grade as; 42 (73.7%) patients had grade II tumor and 15 (26.3%) patients had grade III tumor. Grade II pathology was diagnosed in 39/42 patients with morphological mass lesions while the remaining three patients expressed focal asymmetry and architectural distortion. Grade III pathology was diagnosed in 13/15 patients with morphological mass lesions and the remaining two patients expressed focal asymmetry and architectural distortion. All morphological features were found to be statistically insignificant values for identification of pathological grade neither in mass or non-mass lesions.



**Figure (A) :** pathological grade II tumor; US image shows well circumscribed oval shaped lesion with hypoechoic echo-pattern and macro-lobulated margin.



**Figure (B) :** pathological grade II tumor; US image shows irregular shaped lesion with angulated margins and suspicious calcifications in mass.



**Figure (c) :** pathological grade III tumor; MLO view of the right breast shows hyperdense lesion with irregular shape and spiculated margins.

## Conclusion

Following ACR BI-RADS system helps to differentiate between benign and malignant breast lesions according to morphological features (shape, margins, orientation, posterior features and calcifications). Ultrasound and mammographic morphological features can't be used for prediction of Pathological tumor grade.