Objectives: To assess usefulness of argyrophilic nucleolar organizer regions (AgNORs) in distinguishing between the benign and the malignant breast lesions.

Study design: The studied samples included 48 formalin-fixed, paraffin-embedded breast tissues which consist of following diagnostic categories: Adenosis (n=8), ductal hyperplasia (n=6), infiltrative ductal carcinomas (n=14), infiltrative lobular carcinomas (n=5), and ductal carcinomas in situ (n=5). Standardized AgNORs analysis was performed on the above mentioned samples according to the guidelines of the committee on AgNORs. Quantification of AgNOR content was done by the usual counting method.

Results: The mean AgNORs counts of these studied cases were as follow: Adenosis 2.59+/-0.54, ductal hyperplasia 3.15+/-0.54, benign cysts 1.7+/-0.42, phylloides tumor 4.2+/-1.18, infiltrative ductal carcinomas 8.92+/-1.68, infiltrative lobular carcinomas 8.79+/-1.11 and ductal carcinomas in situ 8.84+/-2.54. The differences in mean AgNORs counts between benign (2.58) and that of malignant lesions (8.84) were statistically significant (p-value 0.001).

Conclusions: The use of AgNORs analysis is found to be a helpful tool in addition to the conventional hematoxylin and eosin staining technique for the distinction between benign and malignant breast lesions.