Multidisciplinary Cancer Investigation **Review Article**

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Medullary Breast Carcinoma and Invasive Ductal Carcinoma: A Review Study

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Abstract

Introduction: Medullary breast carcinoma (MBC) is a unique histological subtype of breast cancer. The present study aimed to evaluate the classic and non-classic characteristics of MBC and its differences with IDC. The present review study incorporates 22 years of practical experience from a breast diseases research center-based series of cases. Retrospectively, the medical records of 3,246 patients were reviewed in the Breast Disease Research Center, Shiraz University of Medical Science, Shiraz, Iran, from December 1993 to December 2015. The tumor size, lymph node metastasis, pathologic stage, nuclear and histological grade, hormonal receptor status, recurrence, disease-free, and overall survival were reviewed. Differences between medullary breast carcinoma and invasive ductal carcinoma were analyzed statistically using the chi-square, Fischer, independent-sample t test, and Kaplan-Meier analysis (SPSS version 19.0). P values <0.05 were considered statistically significant.

Conclusions: A total of 179 patients were identified with MBC and 3,067 patients were identified with IDC. The MBC group had a significant association with a higher histological grade ($P < 0.001$) as well as negative estrogen receptor ($P < 0.001$), progesterone receptor ($P < 0.001$), and HER-2 ($P = 0.004$) status. The MBC patients predominantly had triple-negative breast cancer (TNBC) according to the molecular subtype ($P < 0.001$). In local invasion, MBC was less invasive compared to IDC ($P < 0.001$). The disease-free survival (DFS) and overall survival (OS) differed significantly between the MBC and IDC groups (5-year DFS: 94.2% vs. 86.3%, $P = 0.008$; 5-year OS: 98.1% vs. 92.8%, $P = 0.004$). Despite the poor and aggressive pathological features of MBC, its clinical outcome was more favorable compared to IDC. Our findings can be useful in improvement of diagnosis and treatment of less known breast cancer subtypes, such as MBC.