Breast ductal carcinoma in situ presenting as a mass - not as unusual as we think

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Abstract

**Purpose:** To describe the imaging and histopathologic characteristics of pure ductal carcinoma in situ (DCIS) of the breast that presents as a breast mass.

**Methods and materials:** IRB approved, retrospective review of mammography (Mx), ultrasound (US) and MARI images of pure DCIS cases who underwent surgery in a single institution between 2015 and 2017. Those cases that presented as masses in any breast imaging modalities were selected. Radiological findings and histopathological features of the surgical sample were recorded.

**Results:** On a total of 467 operated breast cancers, 41 (8.7%) case of pure DCIS were identified and 11 of them (9%) appeared as masses on different images, with or without microcalcifications. Two cases (22.2%) were US only lesions. In US 6 (54.5%) presented as low-intermediate suspicion masses (Bl- RADS 4a and 4b). The most common MARI appearance was non-mass like enhancement in six cases (54.5%). Ten nodular pure DCIS (90.9%) had intermediate or high nuclear grade; 10 (90.9%) had necrosis, 4 (36.3%) of them were comedy type. 80% expressed estrogen receptors, 60% progesterone receptors, and 40% were Her2 positive. Microscopic analysis showed massive distention of the mammary ducts with neoplastic cells that coalesced giving a nodular appearance.

**Conclusion:** Pure DCIS presenting as a mass is a more common scenario than previously thought, representing 26.8% of cases in our series. Almost half of them were low-intermediate suspicion lesions in US. Coalesced mammary ducts distended by malignant cells are responsible for the macroscopic nodular appearance.