Ossifying-type calcification (OTC) refers to a peculiar, albeit infrequent, type of calcification found in mammary duct lumen. Ossifying-type calcifications have a central core of calcification with a rim of ossifying-type matrix. This latter structure is morphologically reminiscent of osseous tissue (hence the name); however, the matrix is neither lined by osteoblasts nor does it contain osteocytes. The matrix does not illuminate on polarization.

This type of calcification is most frequently encountered amid the entire spectrum of proliferative duct lesions described as either columnar alteration with prominent apical snouts and secretions (CAPSS) or columnar cell hyperplasia (CCH). Ossifying-type calcification associated with CAPSS/CCH can be seen in both benign and neoplastic diseases of breast. In our limited experience, OTC cannot be distinguished from other forms of calcification on mammogram. CAPSS/CCH has been reported to be associated with lobular carcinoma in situ and with tubular carcinoma.

Figure 1 (hematoxylin-eosin, original magnifications
×40 [a] and ×200 [b]) shows an example of OTC (dense basophilic, smooth, round calcifications surrounded by ossifying matrix) in benign CAPSS/CCH of the breast. Figure 2 (hematoxylin-eosin, original magnifications ×100 [a] and ×400 [b]) shows irregular calcified deposits rimmed by ossifying matrix within the duct lumen of an in situ ductal carcinoma of the cribriform type that is populated by cells exhibiting CAPSS/CCH.

References