

Metaplastic breast carcinoma with extensive osseous differentiation: a report of two cases and review of the literature

Ronggang Lang, Yu Fan, Xilin Fu, and Li Fu

Department of Breast Cancer Pathology and Research Laboratory, Key Laboratory of Breast Cancer Prevention and Therapy, Ministry of Education, Key Laboratory of Cancer Prevention and Therapy, Tianjin Medical University Cancer Institute and Hospital, Tianjin, China

ABSTRACT

Invasive breast cancer with osseous metaplasia is rare. Here we report two cases of metaplastic breast carcinoma with extensive osseous differentiation. Case 1: The patient was a 60-year-old woman with a right breast tumor, about 4 cm in diameter. Mammogram and ultrasound presented an irregular-shaped mass suspected for malignancy. Core needle biopsy confirmed invasive carcinoma and the patient underwent a modified radical mastectomy. Case 2: The patient was a 48-year-old woman with a left breast tumor, about 3 cm in diameter. Mammogram demonstrated a well-circumscribed mass with extensive dense calcifications. Frozen section biopsy confirmed invasive carcinoma and a modified radical mastectomy was performed. The two patients had no metastatic carcinoma in the axillary lymph nodes and remained free of recurrence and systemic metastases in a 13- and 4-month follow-up period, respectively. Histopathologically, patient 1 had an adenocarcinoma with prominent sarcomatous (osteosarcomatous) differentiation with intervening spindle cells. The sarcomatous areas showed high nuclear atypia, pleomorphism and a high Ki-67 index. In Case 2, the neoplasm consisted of invasive ductal carcinoma of no special type with an osseous metaplasia component and showed a direct transition from the carcinoma to the osseous elements. The distinction between the different types of metaplastic carcinomas, specifically the distinction between benign and malignant metaplastic (osteoid) elements, should be taken into consideration.

Key words: metaplastic breast carcinoma, osseous differentiation.

Conflict of interest: The authors have no conflicts of interest.

Acknowledgments: We gratefully acknowledge Professor Vincenzo Eusebi, MD, FRCPath, Department of Oncology, Section of Anatomic Pathology M. Malpighi, University of Bologna, Bellaria Hospital, Bologna, Italy, for his critical review of the paper.

The study was supported by the Program for Changjiang Scholars and Innovative Research Team in University (PCSIRT) IRT0743.

Correspondence to: Li Fu MD, PhD, Professor and Head, Department of Breast Cancer Pathology and Research Laboratory, Tianjin Medical University Cancer Institute and Hospital, Huanhuxi Road, Tiyanbei, Hexi District, Tianjin, China 300060.
Tel +86-22-23340123-5221;
fax +86-22-23340123-5222;
e-mail fulijyb@hotmail.com

Received June 25, 2010;
accepted September 9, 2010.