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 ,
 :
 (4) (2) (2) (4) (3)
 , 2 . 3
 (5) (3) (5
) (3)
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- 5%
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 , American College of Radiology's Breast
 Imaging Reporting and Data System (BI - RADS)
 , , , , ,
 , BI-RADS US Lexicon
 Classification Form
 1996 10 2001 11
 8 28
 78 50.3

¹가²³가

가 . 4 가 2 (25%) (Fig. 3A) . 2 가 . 5 (62.5%) (Fig. 1B). 7 (Fig. 1C), 2 , 1 , 1 , 3 (37.5%)가 1 (12.5%) (87.5%) , 5 (62.5%) (Fig. 1B, Fig. 3B), 3 (Fig. 2B). 2

Table 1 가 , 8 2 - 8 cm (4.9 cm) . 5 , 3 4 (50%) (Fig. 2A), 2 (25%) (Fig. 1A) 2 (25%) . 7 (87.5%)가 (indistinct) 가 (obscured) , 1 (12.5%) 3 (37.5%),

enchymal tissue) (non - epithelial mes - 가 (2). 가 (ductal carcinoma) (1),

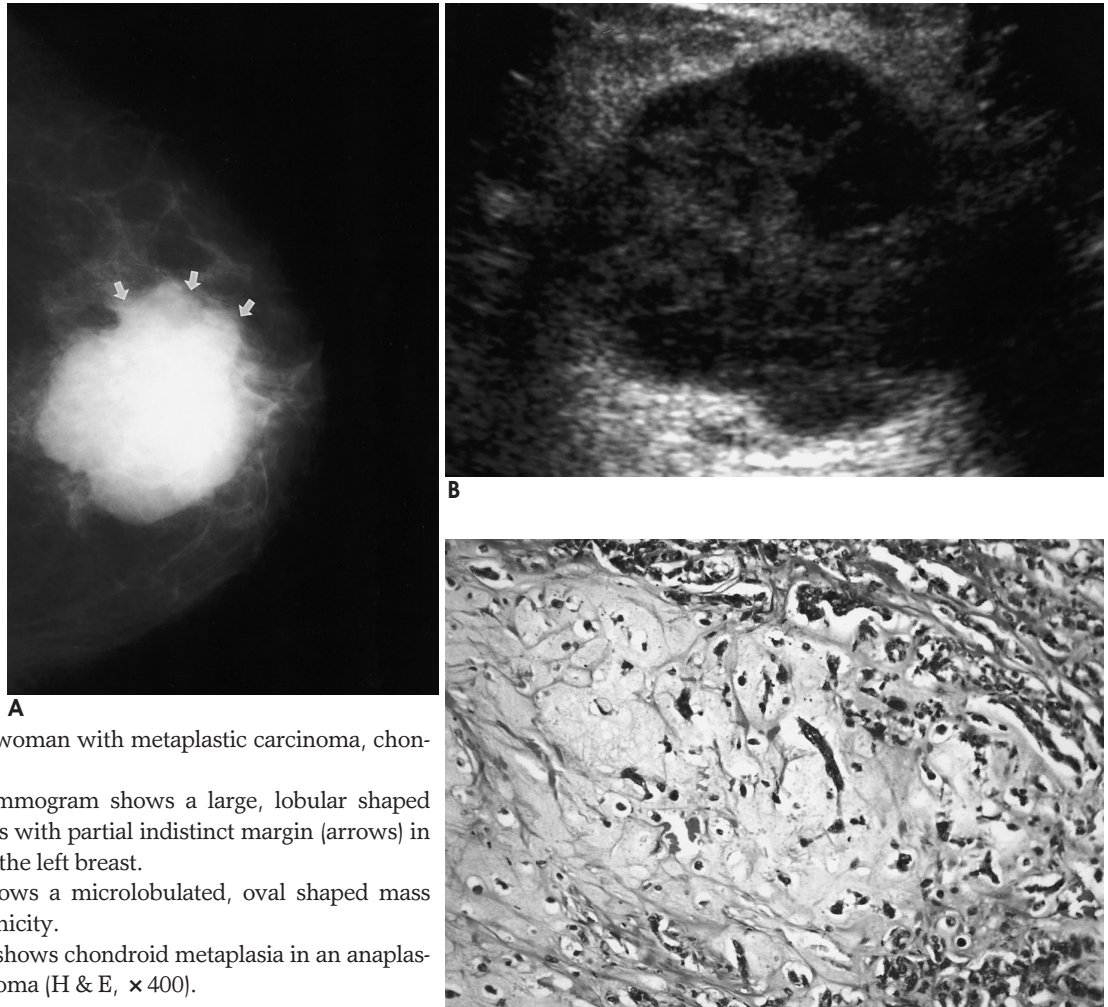


Fig. 1. A 72-year-old woman with metaplastic carcinoma, chondroid type.
A. Craniocaudal mammogram shows a large, lobular shaped and high-density mass with partial indistinct margin (arrows) in the central portion of the left breast.
B. Ultrasonogram shows a microlobulated, oval shaped mass with complex echogenicity.
C. Photomicrograph shows chondroid metaplasia in an anaplastic portion of a carcinoma (H & E, × 400).

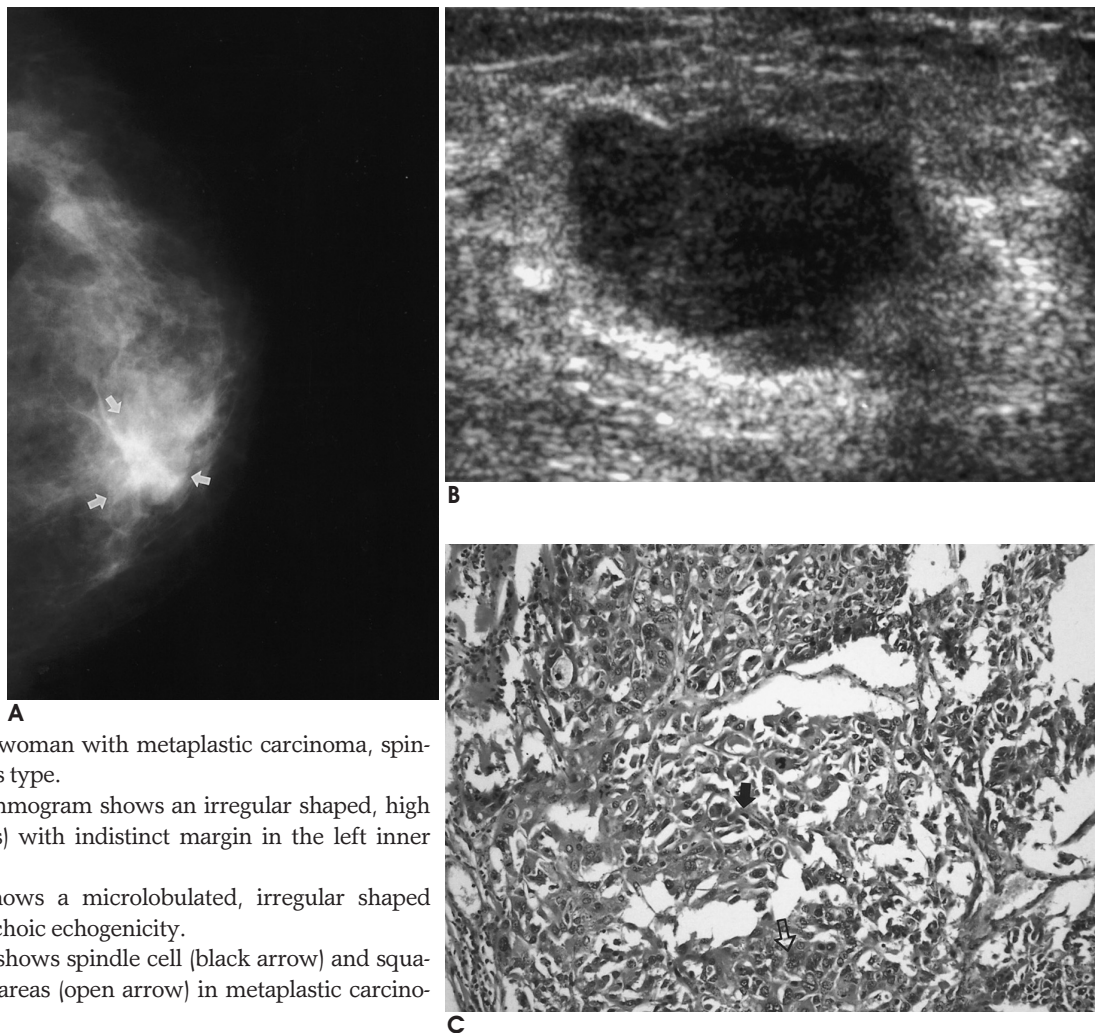


Fig. 2. A 54-year-old woman with metaplastic carcinoma, spindle cell and squamous type.

A. Craniocaudal mammogram shows an irregular shaped, high density mass (arrows) with indistinct margin in the left inner breast.

B. Ultrasonogram shows a microlobulated, irregular shaped mass showing hypoechoic echogenicity.

C. Photomicrograph shows spindle cell (black arrow) and squamous differentiation areas (open arrow) in metaplastic carcinoma (H & E, $\times 400$).

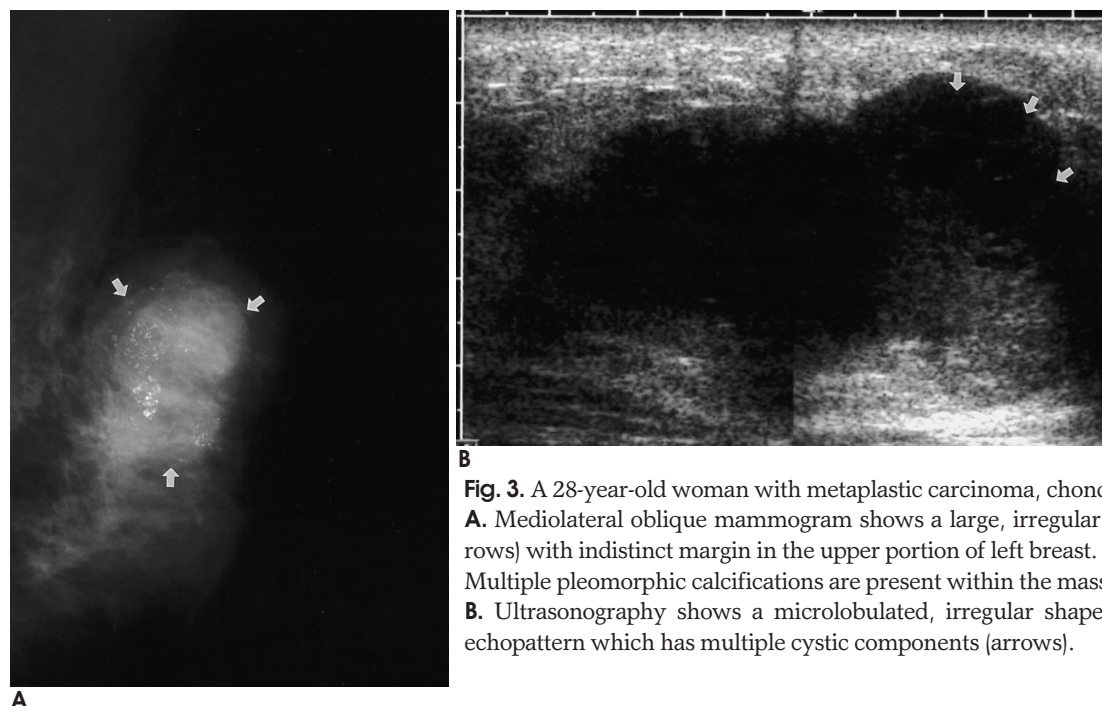


Fig. 3. A 28-year-old woman with metaplastic carcinoma, chondroid type.

A. Mediolateral oblique mammogram shows a large, irregular high density mass (arrows) with indistinct margin in the upper portion of left breast. Multiple pleomorphic calcifications are present within the mass.

B. Ultrasonography shows a microlobulated, irregular shaped mass with complex echopattern which has multiple cystic components (arrows).

Table 1. Mammographic and Sonographic Findings in Eight Patients with Metaplastic Carcinoma of the Breast

Patient (sex/age)	Metaplasia Type	Tumor Location	Mammographic Findings				Sonographic Findings					
			Tumor Size (cm)	Shape	Margin	Density	Assoc. Arch. Dis.	Assoc. Ca + +	LN	Shape	Margin	Echo Pattern
1 (54/F)	Spindle cell and squamous type	UIQ (Lt)	3.5 × 2 × 3	irregular	indistinct	I	+	-	-	irregular	microlobulated	hypoechoic
2 (72/F)	chondroid type	Subareolar (Lt)	6.3 × 6 × 5.9	lobular	indistinct	H	-	-	-	oval	microlobulated	complex
3 (36/F)	sarcomatoid type	3:00 (Lt)	4.5 × 4.3 × 4.5	irregular	obscured	I	+	+	-	irregular	microlobulated	complex
4 (43/F)	spindle cell type	UOQ (Rt)	2.2 × 1.4 × 2	oval	obscured	I	-	-	-	oval	microlobulated	hypoechoic
5 (48/F)	chondroid type	UIQ (Lt)	1.5 × 2 × 1.5	irregular	indistinct	H	-	-	-	irregular	microlobulated	hypoechoic
6 (28/F)	chondroid type	UOQ (Lt)	8 × 3.2 × 4.5	irregular	indistinct	H	-	+	+	irregular	microlobulated	complex
7 (78/F)	sarcomatoid type	UOQ (Rt)	4.7 × 4.8 × 4.2	lobular	circumscribed	H	-	-	-	irregular	indistinct	complex
8 (43/F)	squamous type	UOQ (Rt)	6 × 5 × 7.5	oval	obscured	H	+	-	+	oval	microlobulated	complex

Abbreviations - Assoc. Arch. Dis.: associated architectural distortion, Assoc. Ca ++ : associated calcifications, LN: lymph nodes, H: high density, I: isodense, UIQ: upper inner quadrant,

UOQ: upper outer quadrant

(carcinosarcoma), (malignant mixed tumor of breast), (sarcomatoid carcinoma), (spindle cell carcinoma), (squamous cell carcinoma), (carcinoma with osseous metaplasia), 가 (carcinoma with pseudosarcomatous metaplasia), 가 (carcinoma with sarcoma - like stroma) (6, 7).

(8).

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(9).

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(10).

8 1

가 (13).

40% (2).

가

(2, 8, 14). Oberman (8)

가

15, 16).

4.9 cm

(1, 2, 17).

(14, 18 - 20),

50.3

(2, 3, 18).

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. Brenner (2) 3

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25 - 30%

8 2

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Mammographic and Sonographic Findings of Metaplastic Carcinoma of the Breast¹

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Purpose: To demonstrate the mammographic and sonographic appearances of metaplastic carcinoma of the breast.

Materials and Methods: The mammographic and sonographic findings in eight female patients (aged: 28 - 78 years, mean: 50.3 years) with pathologically proven metaplastic cancer were analyzed retrospectively by three radiologists. We analyzed the size, density, shape, margin, associated architectural distortion, calcification in the mass and enlarged lymph node at the axilla, on the mammograms. We also analyzed the shape, margin and echogenicity of the lesions on the sonograms.

Results: On mammography, irregular ($n=4$), lobular ($n=2$) or oval ($n=2$) shaped high density masses were found. The margins of the masses were indistinct ($n=4$) or obscured ($n=3$). There were architectural distortions in three cases and pleomorphic calcifications in two cases. On sonography, irregular ($n=5$) or oval ($n=3$) shaped masses with microlobulated margins were found. The echopatterns of the masses were complex ($n=5$) or hypoechoic ($n=3$).

Conclusion: The mammographic and sonographic findings of metaplastic carcinoma of the breast are nonspecific and similar to those of other forms of breast cancer. However, this type of tumor should be included in the differential diagnosis for breast masses which appear as an irregular or oval shape with a microlobulated margin and a complex or hypoechoic echopattern on sonography.

Index words : Breast neoplasms
Mammography

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