

Comparison of Ductoscopy, Galactography and Imaging Modalities for the Evaluation of Intraductal Lesions: A Critical Review

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Table 1. Endoscopic classification of intraductal lesions

Mass type	Benign papillary lesion	Breast cancer
Papillary-polypoid		
Solitary	+++	+
Multiple		+++
Color (Red/white)	N/A	N/A
Superficial flat protrusion	+	+++
Color (red/white)	+	+++ if white in color
Circumferential, obstructing, irregular fungating	+	+++
Color (red/white)	+	+++ if red in color

+ refers to lower probability

N/A not applicable

+++ refers to higher probability

Adapted from Japanese association of mammary ductoscopy

Table 2. Comparison of detection rates of intraductal abnormalities with galactography and ductoscopy

		Ductoscopy	Galactography
Hunerbein et al(39)	n (38)	76% (29/38)	68% (26/38)
Yamamoto et al (40)	n (40)	92% (37/40)	82% (33/40)
Dietz et al (7)	n (63)	90% (57/63)	76% (48/63)

Table 3. Comparison of malignant lesion (cancer) detection rates in patients with PND for all diagnostic modalities and cytologic analysis, with the exception of ductoscopy, which determines the lesions but cannot make the benign-malignant discrimination

	Sensitivity	Specificity	Reference
Mammography	10–68%	61.5–100%	[35, 41, 42, 43, 44, 45, 46]
Ultrasonography	32–80%	61–94%	[12, 35, 43, 44, 45]
MRI	44–94%	62–80%	[41, 43, 44, 46, 47]
Galactography	54–83%	0–98%	[12, 42, 43, 45, 47, 48, 49, 50, 51, 52, 53]
Nipple discharge cytology	11–73%	59–100%	[11, 12, 42, 46, 54, 55, 56, 57]
Cytologic analysis of MD specimen	47%	92%	[11]
Ductoscopy	73–89%**	20–77%**	[2, 15]

** All detectable lesions (both benign and malignant) determined by ductoscopy.

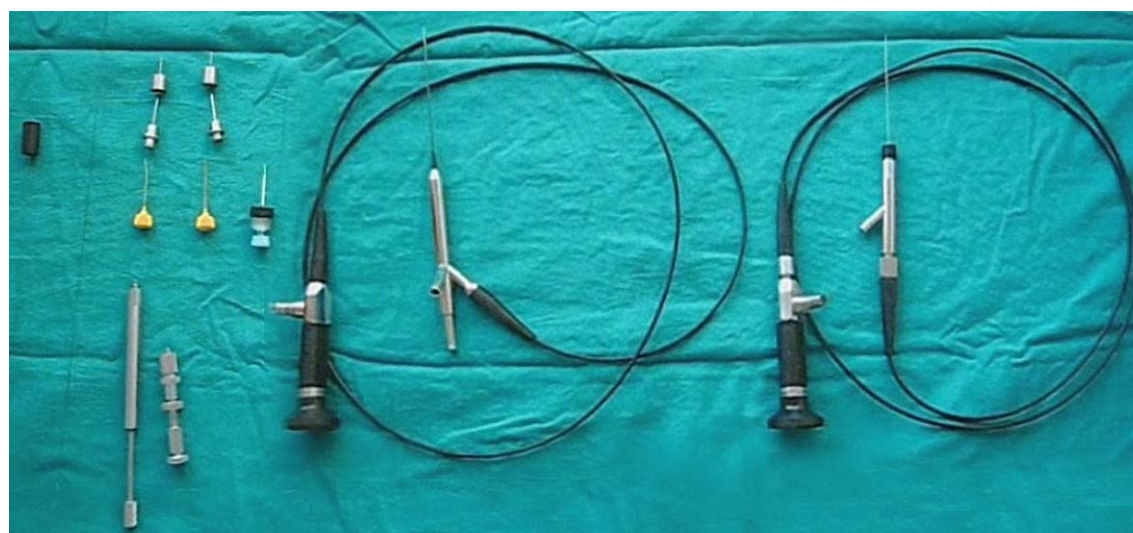


Fig. 1. The fiberoptic ductoscope and related equipment (courtesy of Omer Bender).

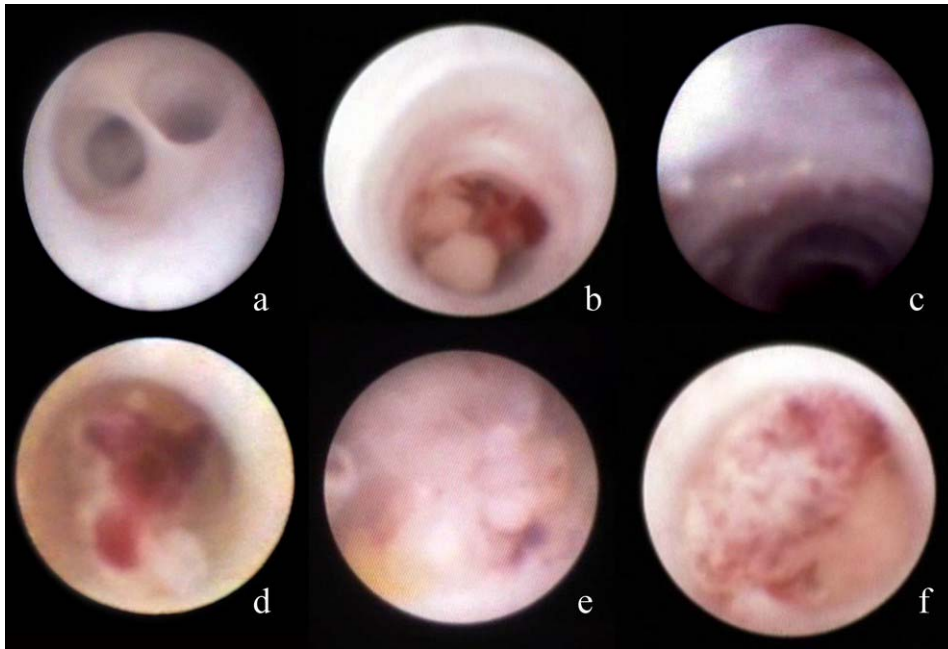


Fig. 2. Images from MD showing (A) a normal duct, (B) a large papilloma with hemorrhage, (C) slightly exophytic DCIS lesions, (D) a raspberry-like papilloma, (E) a papilloma with lobulated surface, (F) a huge papilloma with irregular hemorrhagic surface (courtesy of Omer Bender).

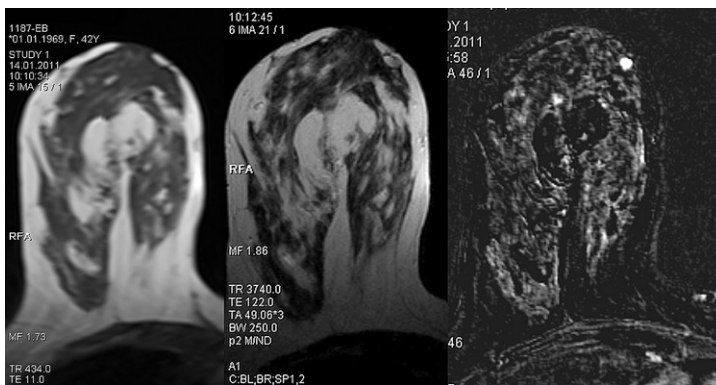


Fig. 3. MRI appearances of a periareolar papilloma with a dimension of 5 × 6 mm.

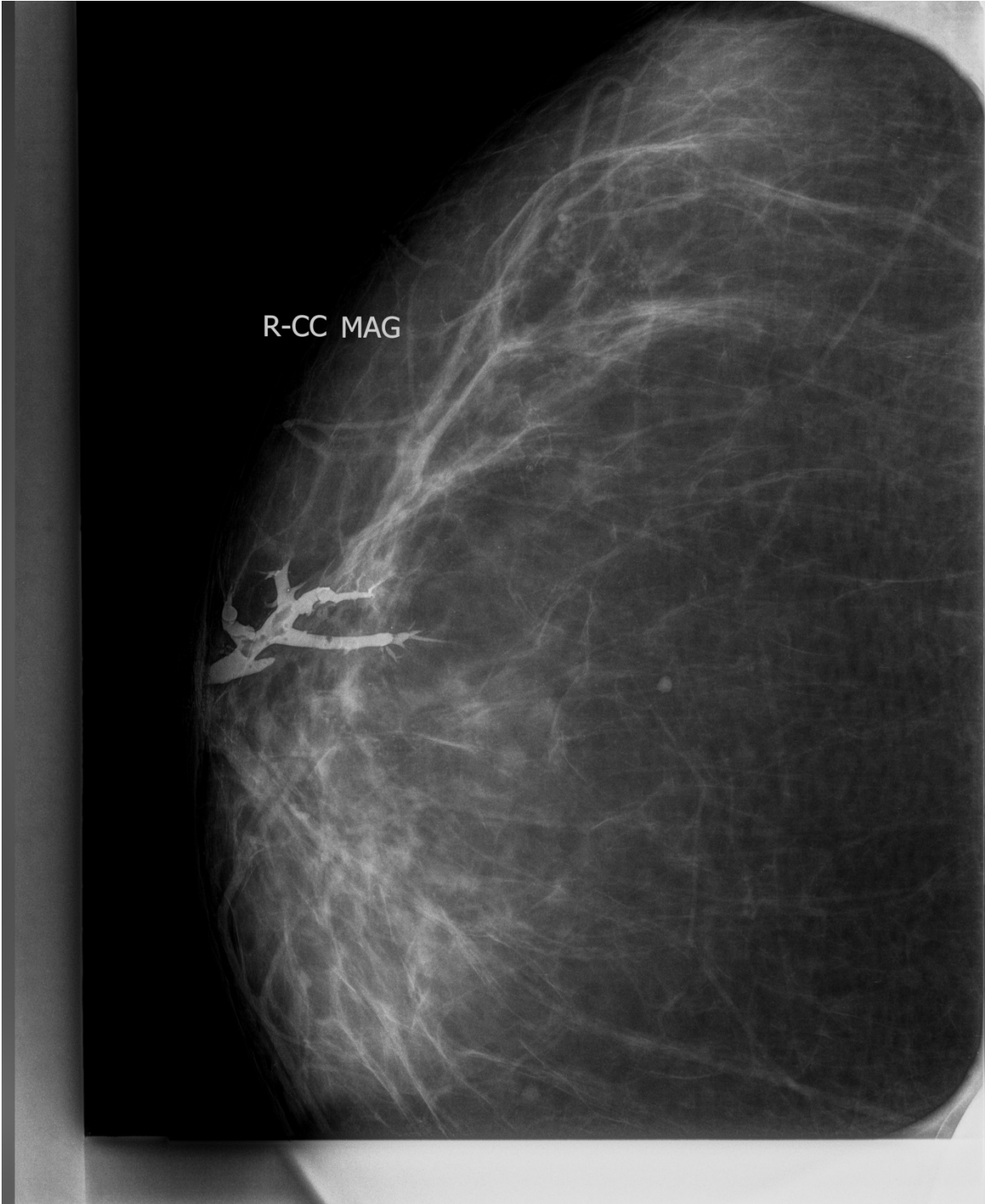


Fig. 4. Intraductal filling defects visualized by galactography.