

가

160

11

8

14

4.6%, 44.4%, 77.8%, 100%, 1

5

0, 2%, 56%, 100%

가,

Index words: Breast neoplasms, US
Breast, neoplasms, diagnosis
Breast, neoplasms, diagnosis

1975
(1).
(2 - 5). 1996
(6).
(7 - 9).
(10).

2 4, 5가

3

2002 5 2004 10 20

160

384

408

(86),

11

188

151

8

(37),

14

160

(37)

가

34

, 14

73

6 - 65 mm (

: 23.3 mm)

74

6

2

12 - 32

26

Senographe DMR (GE

Medical Systems, Milwaukee, Wisconsin)

가

132

28

가

30

33 ,

127

(Table 1).

38.8%

(Table 2).

가 가

가

BB

160

, 132 (

99 ,

33)

. 4

가

HDI 3000

5000(Advanced Technology Laboratories, Bothell,
Wash., U.S.A.)

5 - 12 MHz

BB

가

1 ,

1

, 33

5

(15.2 %)

1

2

4

1

, 1

2

(spiculat -

ed) 가

(microlobulated) 가

, 가

가 non - parallel orientation,

(duct extension) 가

4

6

가

1 - 5

(Table 3, 4).

5

가 18 11 (61.1 %) 5).
 . 11 10
 (90.9 %) 4
 3 (Table
 5).
 18 7 (38.9 %)
 , 5 (71.4 %)
 3 (Table 5).
 17
 2 (11.8 %) (Table

6). 4 .
 17 15 (88.2 %)
 13 (86.7 %) 1, 2, 3
 .
 , 가,
 가

Table 1. Results of 160 Pathologies of Palpable Breast Lesions

Malignancy	33
Invasive ductal carcinoma, NOS*	29
Invasive ductal carcinoma, atypical medullary	1
Malignant phyllodes tumor	2
DCIS	1
Benign	127
Fibroadenomas	68
Fibroadenomatous hyperplasia	13
Benign phyllodes tumors	11
Fibrocystic changes	9
Adenosis tumors	3
Intraductal papillomas	3
Lactating adenomas	3
Ductectasia	3
Periductal chronic inflammation	3
Fibrosis	1
Florid papillomatosis	1
Nodular adenosis	1
Sclerosing adenosis	1
Sclerosing lobular hyperplasia	1
Sclerosing papilloma	1
Ductal hyperplasia	1
Harmatoma	1
Intraductal hyperplasia	1
Benign inflammation	1
Biphasic tumor	1

*not otherwise specified

Table 2. Percentage of Malignancy According to Age Distribution

Patient age group (year)	No.* of cases	Percentage of malignancy
10 - 19	8	0 (0/8)
20 - 29	54	3.7 (2/54)
30 - 39	52	11.5 (6/52)
40 - 49	25	44 (11/25)
50 - 59	18	61.1 (11/18)
60 - 69	2	100 (2/2)
70 - 79	1	100 (1/1)

*number

가 100 %
 (7 - 9, 11, 12).
 , 가
 가
 가 (13),
 가
 , 408 , 188
 (46.1 %)

Table 3. Pathologic Results and Positive Predictive Values of Malignancy According to Fine Needle Aspiration

FNAC results	Pathologic Results			PPV
	Benign	Malignant	Total	
benign	104	5	109	4.6
atypical	5	4	9	44.4
suspicious malignancy	2	7	9	77.8
malignancy	0	16	16	100
insufficiency	15	2	17	11.8

Table 4. Pathologic Results and Positive Predictive Values of Malignancy According to Ultrasound- Categorization

Category of US	Pathologic Results			PPV
	Benign	Malignant	Total	
1	7	0	7	0
2	4	0	4	0
3	94	2	96	2
4	22	30	52	57.7
5	0	1	1	100

Table 5. Ultrasound Categorization and Pathologic Results for Atypical Cells and Suspicious for Malignancy on Fine Needle Aspiration

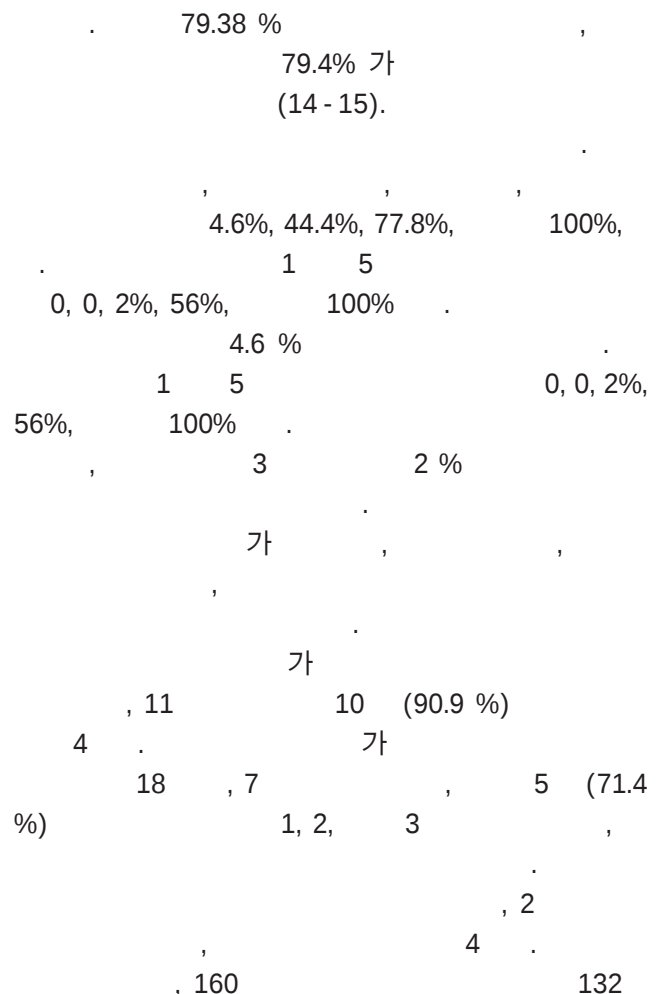
	Age	Cytologic Results	US category	Pathologic Results
1	48	atypical cells	4	IDC, NOS*
2	28	atypical cells	4	IDC, NOS*
3	40	atypical cells	4	IDC, NOS*
4	44	atypical cells	4	IDC, NOS*
5	56	suspicious for malignancy	4	IDC, NOS*
6	44	suspicious for malignancy	4	IDC, NOS*
7	35	suspicious for malignancy	4	IDC, NOS*
8	46	suspicious for malignancy	4	IDC, NOS*
9	61	suspicious for malignancy	4	IDC, NOS*
10	54	suspicious for malignancy	4	IDC, NOS*
11	53	suspicious for malignancy	3	IDC, NOS*
12	22	atypical cells	1	fibroadenoma
13	43	atypical cells	3	intraductal papilloma
14	26	atypical cells	4	sclerosing papilloma
15	42	atypical cells	3	intraductal papilloma
16	31	atypical cells	3	fibroadenoma
17	23	suspicious for malignancy	4	benign phyllodes tumor
18	33	suspicious for malignancy	3	intraductal papilloma

*invasive ductal carcinoma, not otherwise specified

Table 6. Ultrasound Categorization and Pathologic Results for Insufficiency on Fine Needle Aspiration

	Age	US category	Pathologic Results
1	28	3	fibrocystic change
2	42	4	periductal chronic inflammation
3	38	1	fibrocystic change
4	48	4	IDC, NOS*
5	22	3	fibroadenomatous hyperplasia
6	53	3	ductal hyperplasia
7	35	3	fibroadenoma
8	35	3	fibroadenoma
9	30	3	fibroadenoma
10	29	3	fibroadenoma
11	47	3	florid papillomatosis
12	53	3	fibrocystic change
13	20	3	fibroadenoma
14	55	4	ductectasia
15	56	2	fibroadenoma
16	43	3	fibrosis
17	73	4	IDC, NOS*

*invasive ductal carcinoma, not otherwise specified



(99 , 33)
 . 15 %
 (16, 17). 5
 . 4
 가
 . 4
 1 , 1 ,
 2 . 4
 (2 , 1 , 1)
 . ,
 가
 가 100 %
 (7 - 9, 11, 12). 가,
 가 가 ,
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 14
 , 11 8 ,
 .
 (18 - 23),
 .
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 가
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 가
 ,
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Palpable Breast Lesions: Reconsideration of the Diagnostic Algorithm

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Purpose: The purpose of our study was to evaluate the utility of the ultrasound (US) BI-RADS final assessment system and palpation-guided fine needle aspiration (FNA) for evaluation of palpable breast lesions.

Materials and Methods: Our computerized database identified 160 palpable lesions of the breast based on physical examination, in which follow-up palpation-guided FNA, targeted US, and pathologic confirmation were performed. We used US BI-RADS data on all lesions, prospectively analyzed by an expert breast radiologist. Pathologic confirmations were made by surgery, 11-gauge or 8-gauge vacuum-assisted biopsy, or 14-gauge automated gun biopsy. The positive predictive values of US and palpation-guided FNA were calculated.

Results: The results of the palpation-guided FNA were defined as benign, atypical cells, suspicious for malignancy, malignancy, and insufficiency. The positive predictive values of FNA for benign, atypical cells, suspicious for malignancy, and malignancy were 4.6%, 44.4%, 77.8%, and 100%, respectively. The positive predictive values of US for BI-RADS categories 1 - 5 were 0, 0, 2%, 56%, and 100%, respectively.

Conclusion: The application of the US BI-RADS final assessment system to palpable breast lesions was useful. Application of FNA results can be difficult, especially when the result is insufficiency. Moreover, FNA is invasive and overlaps other procedures. Therefore, palpation-guided fine needle aspiration can be eliminated for the evaluation of palpable breast lesions.

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