1

.   .   .   .

2.   3

:

.

:   338

38   39   .   2   ,   36   .   39   .   ,

,   ,   ,   ,   (peripheral hypoechoic

rim)   . 1 cm

.

:   90%,   64%,   54%,

92%,   77%,

56%   .   10%,   36%,

10%,   8%   . 1 cm   ,   ,

.   1 cm   .

56%   .

:

.

,   ,

.   .

50%

(1).

7%   .

(2).

,

,   ,   ,

.   2001   1   2007   2

338

38   39 (12%)   .   2   ,

(2, 3).   (3)   36   39 (38- 61   )   . 2

6%   .   37

.   .

.

SONOLINE Antares(Siemens Medical Solutions, U.S.A.)

HDI 5000(Advanced Technology Labratories, Bothell,

Wash., U.S.A.)   7- 12 MHz

:

, , (peripheral 1 cm
hypoechoic rim) , 1 , 1 cm .
cm , 1 cm

. , , ,
.

(ovoid to round), (taller than
wide), (irregular) ,
(well- defined smooth), 338
(well- defined spiculated),
(ill- defined) .

. (strap muscle)
(markedly hypoechoic),
(hypoechoic),
(isoechoic),
(hyperechoic) .
(reverberation artifact)
(posterior shadowing)
.
(microcalcification), (macrocalcificaiton),
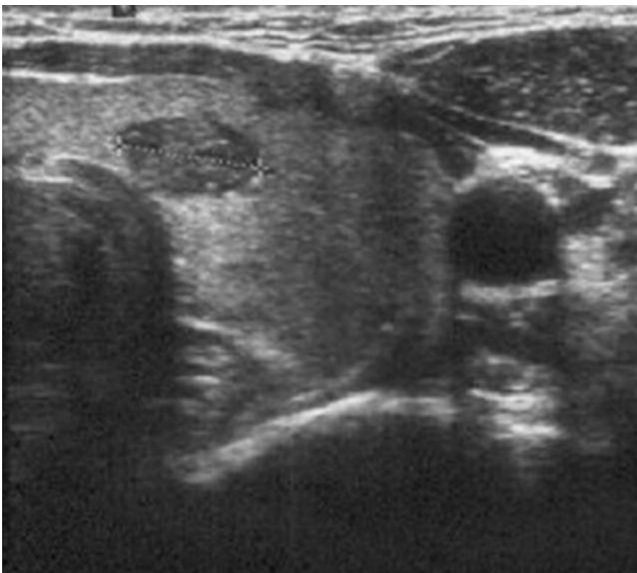(rim calcification) .
1 mm , 1 mm
,
. ,
, ,
.

Fig. 1. 41-year-old woman with papillary carcinoma. Sonogram of left lobe of the thyroid gland shows 0.9 cm, oval, well-defined smooth, hypoechoic nodule with peripheral hypoechoic rim.

Table 1. US Findings of Thyroid Cancer Initially Assessed as No Suspicious Malignancy According to the Size

		1 cm (%)	>1 cm (%)	Total (%)
Shape	Ovoid to Round	29(88)	6(100)	35(90)
	Taller than Wide	4(12)	0(0)	4(10)
	Irregular	0(0)	0(0)	0(0)
Margin	Well-Defined Smooth	20(61)	5(83)	25(64)
	Well-Defined Spiculated	13(39)	1(17)	14(36)
	Ill-Defined	0(0)	0(0)	0(0)
Echo	Markedly Hypoechoic	4(12)	0(0)	4(10)
	Hypoechoic	19(58)	2(33)	21(54)
	Isoechoic	10(30)	4(67)	14(36)
	Hyperechoic	0(0)	0(0)	0(0)
Calcification	No Calcification	30(91)	6(100)	36(92)
	Microcalcification	3(9)	0(0)	3(8)
	Macrocalcification	0(0)	0(0)	0(0)
	Rim Calcification	0(0)	0(0)	0(0)
Cystic Degeneration	Present	5(15)	4(67)	9(23)
	Absent	28(85)	2(33)	30(77)
Peripheral Hypoechoic Halo	Present	16(48)	6(100)	22(56)
	Absent	17(52)	0(0)	17(44)
Total		33(85)	6(15)	39(100)

38   39 (12%)   .   0.3 cm   4.3 cm
        0.9 cm   . 1 cm   33 (85%)   , 1 cm
        6 (15%)   .

38 ,   1   .

  33 ,   5   .   Table 1
  .   90% (35/39),
        64% (25/39),   54% (21/39),
        92% (36/39),   77%
(30/39),
56% (22/39)   (Fig. 1, 2).

10% (4/39),
36% (14/39),   10% (4/39),
8% (3/39)   (Fig. 3-5). 1 cm
                ,   ,   (Fig.
2).   1 cm
(Fig. 4, 5).   56% (22/39)

Fig. 2. 36-year-old woman with papillary carcinoma follicular variant. Sonogram of right lobe of the thyroid gland shows 2.5 cm, oval, well-defined smooth, isoechoic nodule with cystic degeneration and peripheral hypoechoic rim.

Fig. **3**. 39-year-old woman with papillary carcinoma. Sonogram of left lobe of the thyroid gland shows 0.3 cm, taller than wide, well-defined smooth, isoechoic nodule with cystic degeneration.
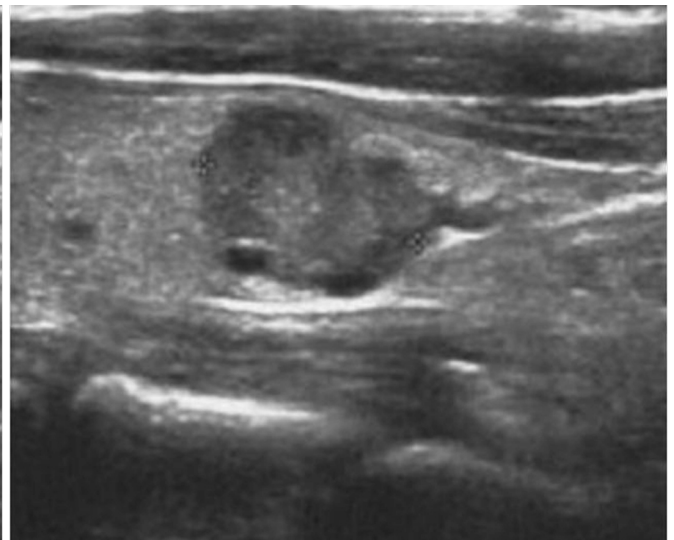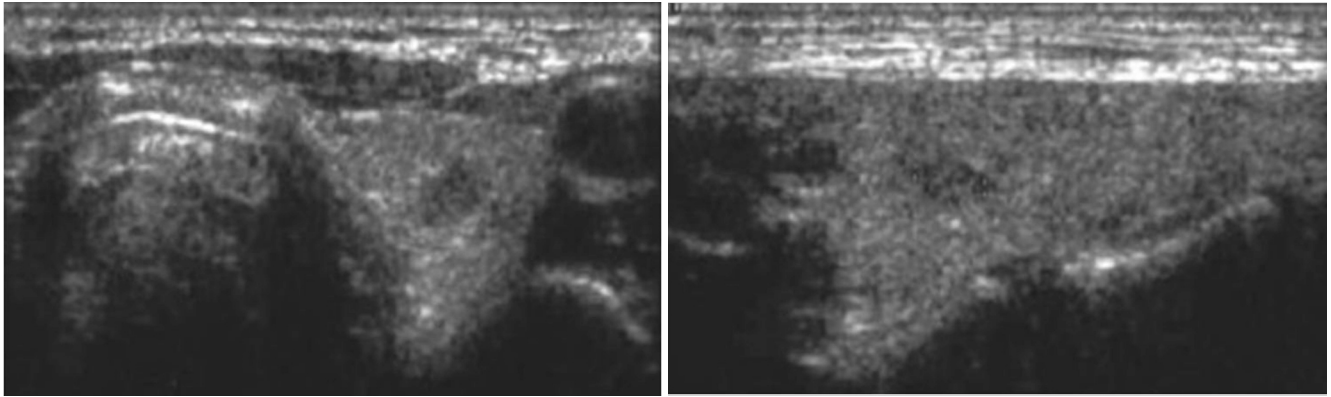

A   **B**

Fig. 4. 46-year-old woman with papillary carcinoma.
A (axial) and **B** (longitudinal) sonograms of left lobe of the thyroid gland show 0.9 cm, taller than wide, well-defined spiculated, hypoechoic nodule with cystic degeneration and peripheral hypoechoic rim.

Fig. 5. 37-year-old woman with papillary carcinoma. **A.** (axial) and **B.** (longitudinal) sonograms of left lobe of the thyroid gland show 0.8 cm, taller than wide, well-defined spiculated, hypoechoic nodule with peripheral hypoechoic rim.

(Fig. 1, 2), 44% (17/39)
(Fig. 3- 5). . (accuracy) 72.9- 77.4%
17 7% . (sensitivity) 26.5%-
17 59.1% .
8 93.8%
(47%) . 1 cm 6.2% (3).
1 cm . 10
1 cm 52% (17/33) 849
48% (16/33) , ,
. 1 cm 83% (5/6) ,
, 17% (1/6) 9.8- 48.3%
. 22 1 cm 90.7- 96.2% . 4
16 73% . 1 83.6%,
28% (11/39) (Fig. 3), 2 15% (6/39) 73.1%, 69.6%, 85.8%
(Fig. 4, 5). 0.6 . 1 cm 84.6%
17 62.3%, 73.4% , 1 cm
1.4 82.8%, 75.9%, 78.4%
.

(7).

(centrifugal) (8). (3)
. , (32.5%) (97.5%).
10%
(4). 1 cm 1 cm
.
. (3) 55.1%,
, , 83%, 74.2% . .
. 10%,
, , 36%, 10%,
, , (3, 5, 6). 8%
(3) , ,
, 17

8 (47%)

1 cm   1 cm

(9).

(2, 16).   Yoon (17)

41.7%,

39.6%

55%   (14)   12%

1 cm   8.3%, 1 cm

(9-12).   (3)   20%

26.5%   94.3%   (15)   1 cm   6%, 1 cm

Chan (13)   1   30.4%

10%   54%   56%

(14)

1 cm   , 1 cm   2 cm   ,

2 cm   . 1 cm   1 cm

(15)   1 cm

, 1 cm   ,   ,

,   (3)   49   3 (6%)

39   , 12%

1 cm   6   39

3 ,   2 ,   1   22 ,

1 cm   30%,   7%

70%, 1 cm   . (3)   3   2

67%,   33%   1

(3)

(psammoma body)   2.6

29-59%   85.8-95%   0.6

(2-5, 13).   17   1.4

9.8%   96.2%   1 cm

92%

3   ,

Chan (13)   55   7   . Chan (13)

(15)   1 cm   35%

1 cm   1.4%,   , 10%

21.7%   (86%),

77%   (42%),   (47%),

1 cm   67%   (47%),   (69%)

1 cm   ,   ,   ,

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:

, . 54%

1 11%

2 .

.

1 cm

. 1 cm (occult cancer)

cancer) ,

. 1cm

2 mm

. 1 cm

(2,

3). (indeterminate)

1 cm

(7). 1 cm 85% (33/39)

22 1 cm 16 73%

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, .

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1. Frates MC, Benson CB, Charboneau JW, Cibas ES, Clark OH,

Sonographic Findings of Thyroid Cancer Initially Assessed as No Suspicious Malignancy[1]

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Purpose: To review the retrospective imaging findings of thyroid cancer initially assessed as no suspicious malignancy.

Materials and Methods: Of 338 nodules confirmed to be thyroid cancer, this study included 38 patients with 39 nodules assessed as no suspicious malignancy on initial sonography. (mean age: 39 years, 36 females and 2 males). We evaluated sonographic findings by shape, margin, echogenecity, calcification, cystic degeneration and peripheral hypoechoic rim retrospecively. We analyzed whether sonographic findings were different according to the size (standard: 1 cm).

Results: The most frequent sonographic findings were ovoid to round shape 90%, well-defined smooth margin 64%, hypoechogenecity 54%, no calcification 92%, no cystic degeneration 77% and peripheral hypoechoic rim 56%. Suspicious malignancy findings were taller than wide shape 10%, well-defined spiculated margin 36%, markedly hypoechogenecity 10% and microcalcifications 8%. Isoechogenecity, cystic degenetaion and peripheral hypoechoic rim were common in 1 cm more than nodules. Well-defined spiculated margin was common in 1 cm less than nodules. In retrospective, 56% showed no suspicious malignancy finding.

Conclusion: Although nodules assessed as no suspicious malignancy on initial US had many retrospectively suspicious malignancy findings, still many nodules showed no suspicious malignancy finding. Suspicious findings were ignored due to equivocal finding in small size, isoechogenecity, cystic degeneration or peripheral hypoechioic rim. We need careful observation.

Index words : Thyroid gland
Ultrasonography
Thyroid neoplasms
Thyroid nodule

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