

:
 : 2005 1 2005 12 776
 1,126
 , 2005 4 6 3 202 313
 (A), 2004 7
 9 3 186 250
 (B),
 : 2005 1 12
 776 1126 112 (9.9%)
 10%
 , 1126 69
 , 0.5 cm 21 3 28 , 0.5 cm 1.0 cm 22 2
 40 , 1.0 cm 26 2 14 가
 2005 4 6 313
 (A) 25 (8.0%) , 0.5 cm
 93 14 (15.1%), 0.5 cm 1.0 cm 95
 5 (5.3%), 1 cm 125 6 (4.8%)
 . 2004 7 9
 245 (B) 63 (25.7%)
 , 0.5 cm 45 15 (33.3%), 0.5 cm
 1.0 cm 89 25 (28.1%), 1 cm 112
 24 (21.4%) A B
 (Chi - square test, $p < 0.005$),
 (student t test, $p < 0.05$).
 :
 가

:

(Fig. 1).

가

(Fig. 2),

2005 1 2005 12 ,
776 1,126

가 10

가

, 69
, 2004 7 9 3 186
250 2005 4 6 3
202 313

가

가

가

가

1 cm

10

, 0.5 cm

7 - MHz

128 XP/10 scanner (Acouson, Mountain View, CA)

20

1995 Yokozawa (1)

가

가

가

(povidone - iodine 10% solution)

가

(Fig. 3).

A

B

95%

69

23 G

10 mL

cm

0.5 cm

, 0.5 cm

1.0 cm

1.0

가

가

2005 1 12

A

776

(9.9%)

, 가

1,126

112

가 , 0.5 cm

308

52

(16.9%), 0.5 cm

1.0 cm

306

30 (9.8%), 1 cm

504

30

(6.0%)

가

128

3 - 4

(11.4%).

776

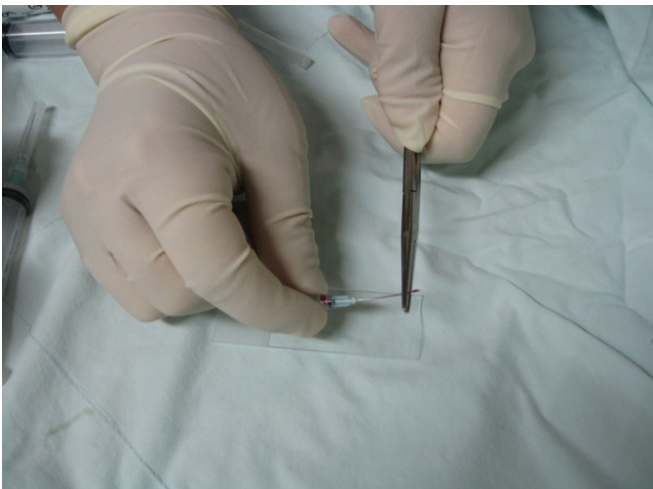
10%



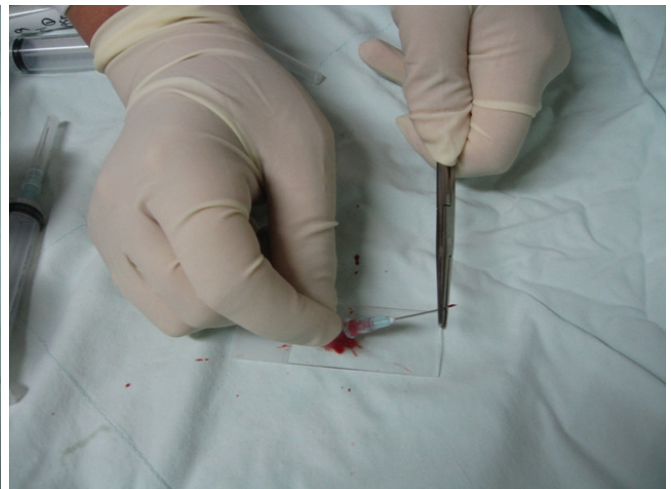
Fig. 1. Syringe holding with right hand.



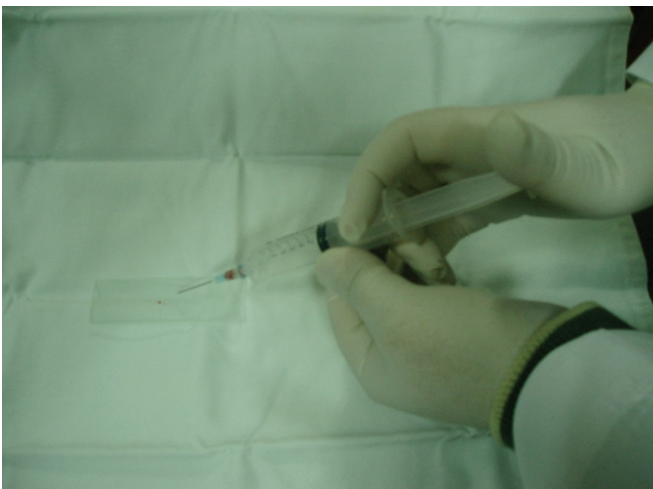
Fig. 2. Appropriate amount of specimen for 3 times smear.



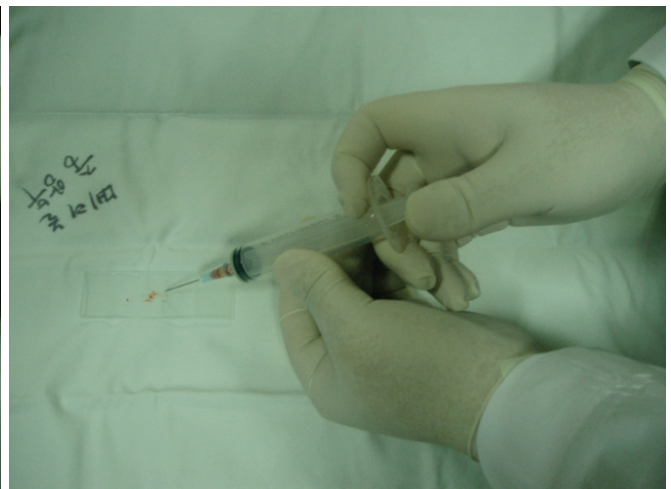
A



B



C



D

Fig. 3. smear technique.

A, B. Peculiar extraction technique of specimen from needle (only in Group A).

C, D. conventional extraction technique of specimen from needle (in Group A & B).

가

가

가

가

4 5,000

가

가

5

2

90% 가

, Pisani (20)

4

가

가

(15-17).

가

Ahuja (18)

가

90%

가

가

가

(19).

가 1

4 mm

1%

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Ultrasonography-guided Fine-needle Aspiration Biopsy for Thyroid Nodules: Effective Technique and a Peculiar Smear Method¹

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Purpose: We wanted to evaluate the effective methods that are appropriate for an endemic area of thyroid disease and to compare the differences of cytologic diagnostic rates with and without using a peculiar smear technique.

Materials and Methods: We analyzed the incidence rate of insufficient results, complications and the total procedure times of 1,126 thyroid nodules in 776 patients who underwent US-FNAB (ultrasonography-guided fine-needle aspiration biopsy) from January to December 2005. We compared the diagnostic rate between the two groups; the groups' tests were performed with a peculiar smear technique (Group A, $n = 313$) or with a conventional smear technique (Group B, $n = 250$).

Results: According to the size of the thyroid nodule, the incidence rate of an insufficient result on US-FNAB and the mean total procedure time for 1126 thyroid nodules in 776 patients were measured as 16.9% (52/308) and 208 seconds for nodules under 0.5 cm, 9.8% (30/306) and 160 seconds for nodules between 0.5 cm - 1.0 cm, and 6.0% (30/504) and 134 seconds for nodules over 1.0 cm. These 776 patients showed no significant complications, except for mild pain. In Group A, the incidence rate of an insufficient result was calculated as 15.1% (14/93) for the group with nodules under 0.5 cm, 5.3% (5/95) for the group with nodules between 0.5 cm - 1.0 cm, 4.8% (6/125) for the group with nodules over 1.0 cm, and 8.0% (25/313) for the total A Group. In Group B, the incidence rate of an insufficient result was measured as 33.3% (15/45) for the group with nodules under 0.5 cm, 28.1% (25/89) for the group with nodules between 0.5 cm - 1.0 cm, 21.4% (24/112) for the group with nodules over 1.0 cm, and 25.7% (63/245) for the total B group. There was a statistically significant correlation between the rate of an insufficient result and the peculiar smear technique or the size of the thyroid nodule.

Conclusion: We consider that US-FNAB is very simple, safe and accurate diagnostic method for thyroid nodules, and US-FNAB with a peculiar smear technique is able to increase the diagnostic rate for thyroid nodules.

Index words : Thyroid, sonography
Thyroid, aspiration
Biopsies, technology

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