



Roma,
9-11 novembre 2012

Micro-histology: how, when, why

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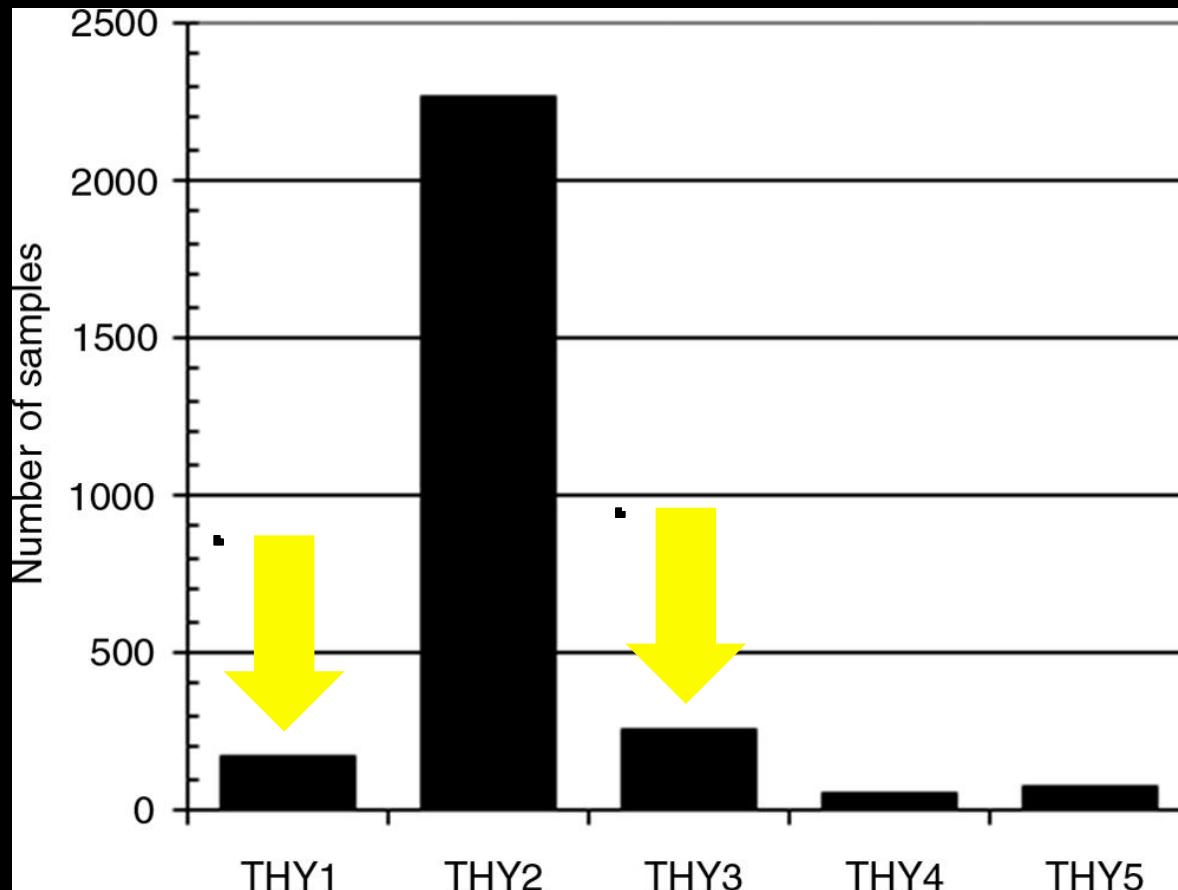


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Micro-histology

Histologic examination of **core** of thyroid nodule obtained by a **needle biopsy (CNB)**

Micro-histology: When?



Core Needle Biopsy

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1. [Thin core biopsy should help to discriminate thyroid nodules cytologically classified as indeterminate. A new sampling technique.](#)
Nasrullah N, Trimboli P, Guidobaldi L, Cicciarella Modica DD, Ventura C, Ramacciato G, Taccogna S, Romanelli F, Valabrega S, Crescenzi A.
Endocrine 2012 Oct 15 [Epub ahead of print]
PMID: 23070753 [PubMed - as supplied by publisher]
[Related citations](#)

2. [Common breast problems.](#)
Salzman B, Fleegle S, Tully AS.
Am Fam Physician. 2012 Aug 15;86(4):343-9.
PMID: 22963023 [PubMed - in process]
[Related citations](#)

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Core Needle Biopsy

Combined CNB/FNA allows to avoid unnecessary surgery

Core Needle Biopsy

Oppenheimer et al. How to interpret thyroid biopsy results: a three-year retrospective interventional radiology experience. *Cardiovasc. Intervent. Radiol.* 33, 800-805 (2010).

Harvey et al. Sonographic features of thyroid nodules. J. Clin. Ultrasound. 33, 57

CNB vs repeat FNA

Screaton et al. US Patent 6,596,832 (2003).

Sung et al. Diagnostic accuracy of fine-needle aspiration versus core-needle biopsy for the diagnosis of thyroid malignancy in a clinical cohort. Eur. Radiol. 22, 1564-1572 (2012).

Na et al. Core-Needle Biopsy Is More Useful Than Repeat Fine-Needle Aspiration in Thyroid Nodules Read as Nondiagnostic or Atypia of Undetermined Significance by the Bethesda System for Reporting Thyroid Cytopathology. *Thyroid* 22, 468-475 (2012).

Diagnostic accuracy of fine-needle aspiration versus core-needle biopsy for the diagnosis of thyroid malignancy in a clinical cohort

Jin Yong Sung · Dong Gyu Na · Kyu Sun Kim ·
Hyunju Yoo · Hunkyung Lee · Ji-hoon Kim ·
Jung Hwan Baek

- 18-G needle
- 1127 patients undergoing FNA and CNB
- 555 nodules with final diagnosis

Diagnostic results	FNA	CNB	FNA/CNB
Non-diagnostic	34 (6.1%)	8 (1.4%)	1 (0.2%)
Benign	199 (35.9%)	195 (35.1%)	195 (35.1%)
AUS/FLUS	101 (18.2%)	63 (11.4%)	56 (10.1%)
FN/SFN	3 (0.5%)	11 (2.0%)	13 (2.3%)
Suspected malignancy	67 (12.1%)	25 (4.5%)	31 (5.6%)
Malignancy	151 (27.2%)	253 (45.6%)	259 (46.7%)

Core-Needle Biopsy Is More Useful Than Repeat Fine-Needle Aspiration in Thyroid Nodules Read as Nondiagnostic or Atypia of Undetermined Significance by the Bethesda System for Reporting Thyroid Cytopathology

Dong Gyu Na,¹ Ji-hoon Kim,² Jin Yong Sung,³ Jung Hwan Baek,⁴ Kyeong Cheon Jung,⁵
Hunkyung Lee,⁶ and Hyunju Yoo⁷

- 18-G needle
- 161 Tir 3 (104 with final diagnosis)
- repeat FNA vs CNB

104 Tir 3

	<	39 benign	>	65 cancers
CNB		26		44
Repeat FNA		27		22

Ultrasound-Guided Percutaneous Thyroid Nodule Core Biopsy: Clinical Utility in Patients with Prior Nondiagnostic Fine-Needle Aspirate

Anthony E. Samir,¹ Abhinav Vij,¹ Melanie K. Seale,¹ Gaurav Desai,¹ Elkan Halpern,²
William C. Faquin,³ Sareh Parangi,⁴ Peter F. Hahn,¹ and Gilbert H. Daniels^{5,6}

- 20-G needle CNB
- 90 inadequate cytologies

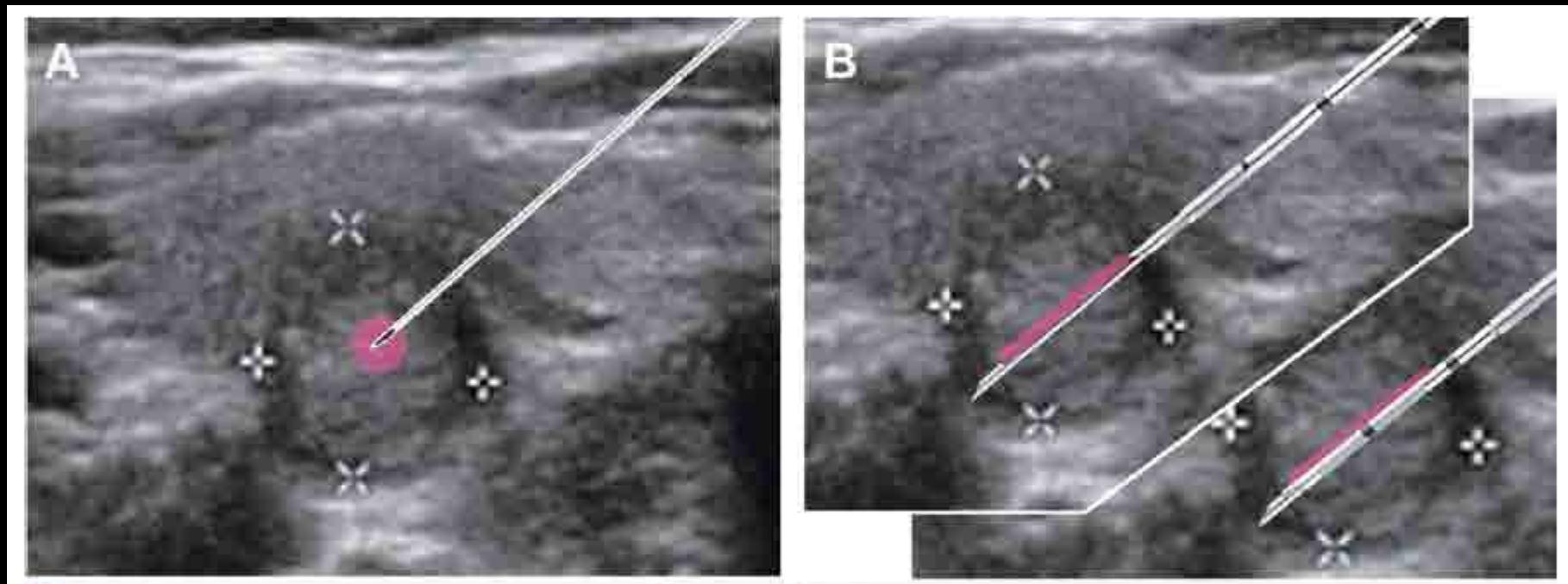
The combination **repeat FNA/CNB** classified as diagnostic 87% of lesions

ROLE OF CORE NEEDLE BIOPSY AND ULTRASONOGRAPHIC FINDING IN MANAGEMENT OF INDETERMINATE THYROID NODULES

Kyung Tae Park, MD,¹ Soon-Hyun Ahn, MD,¹ Ji-Hun Mo, MD,¹ Young Joo Park, MD,²
Do Joong Park, MD,³ Sang Il Choi, MD,⁴ So-Yeon Park, MD⁵

258 nodules with indeterminate at cytology

	Diagnostic	Nondiagnostic
Second FNA ($n = 142$)	73 (51.4%)	69 (48.6%)
Core needle	53 (98.2%)	1 (1.8%)



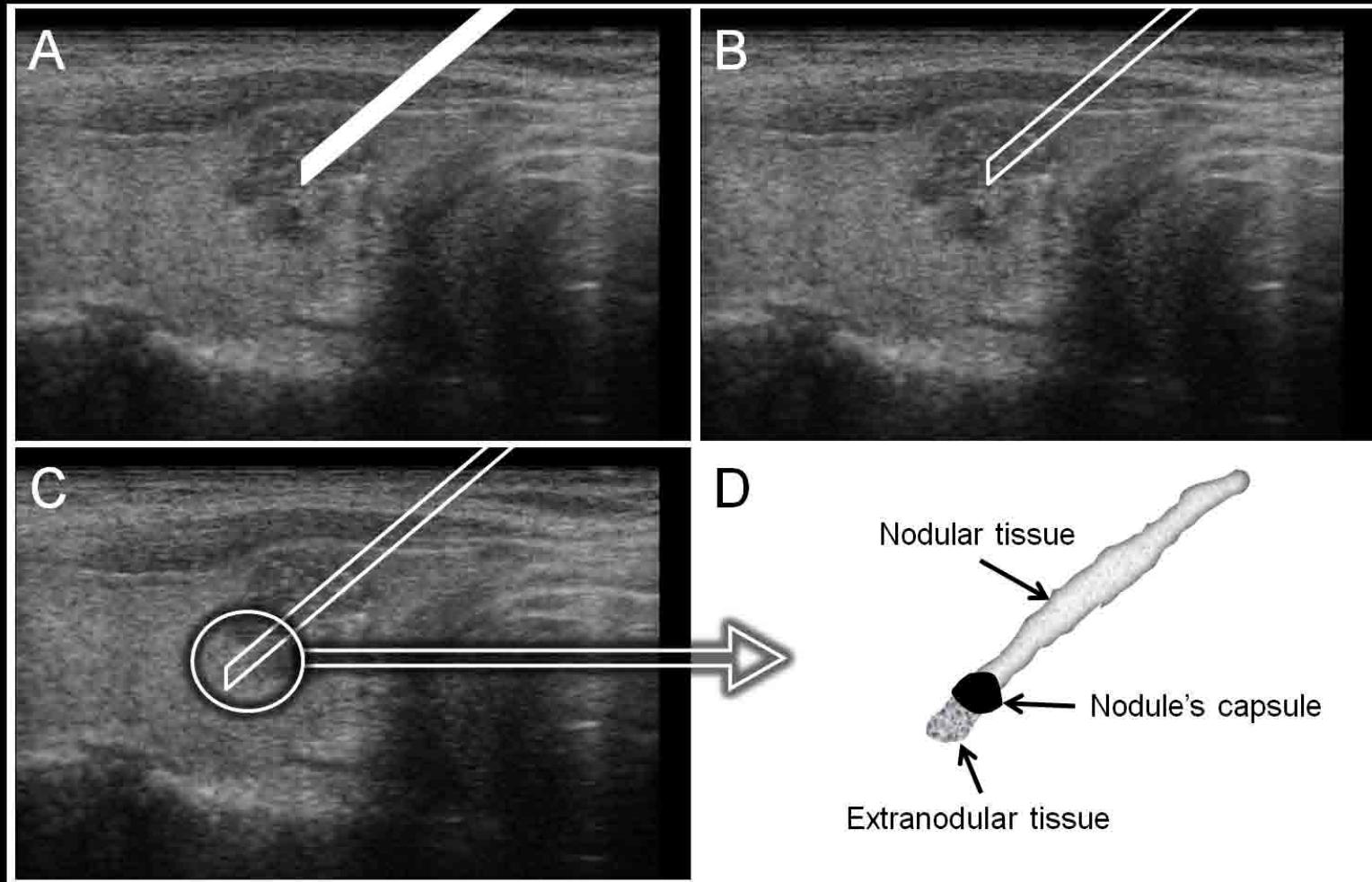
FNA

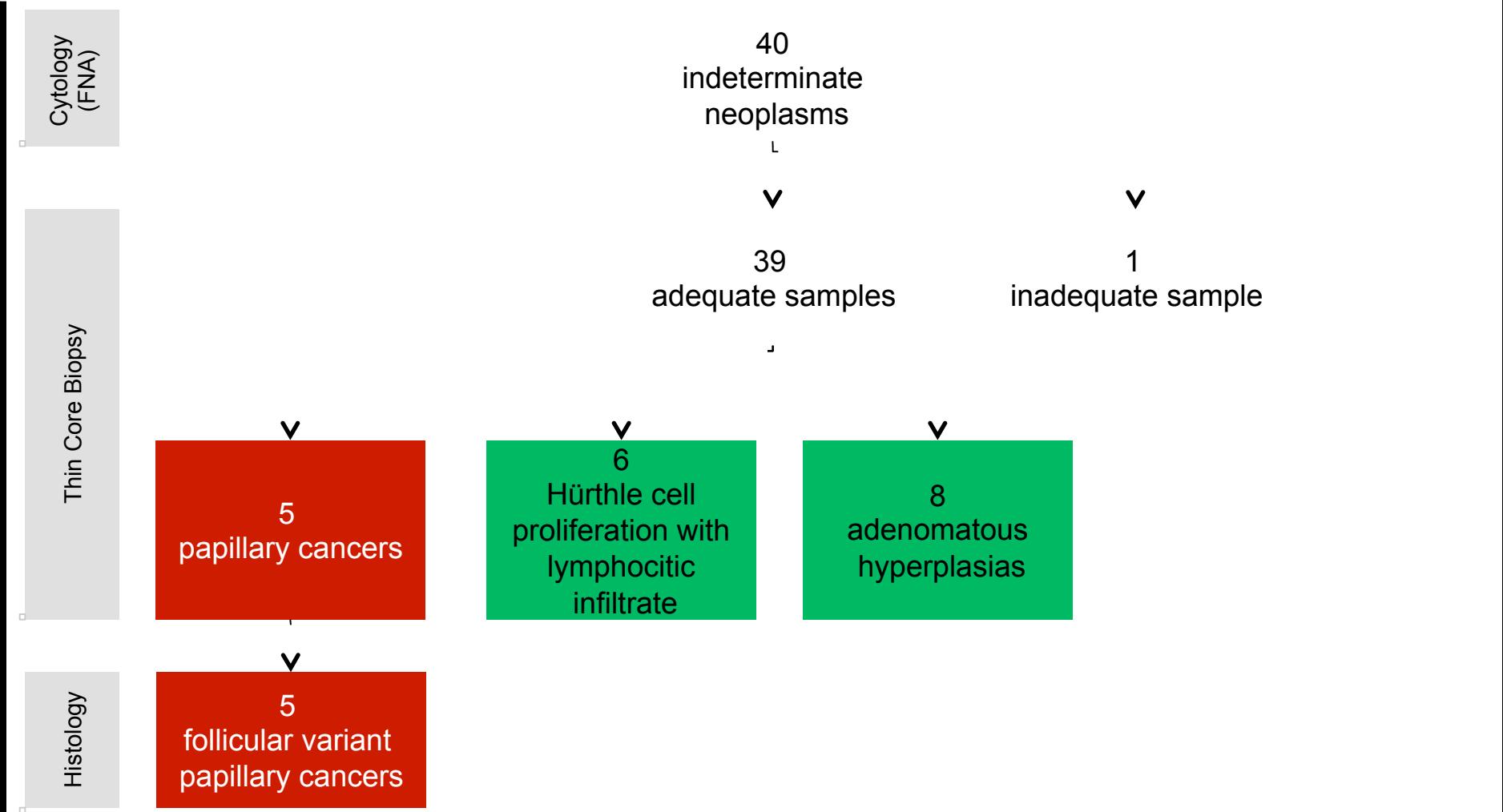
CNB by 18-G needle

Thin core biopsy should help to discriminate thyroid nodules cytologically classified as indeterminate. A new sampling technique

Naim Nasrollah · Pierpaolo Trimboli · Leo Guidobaldi · Davide D. Cicciarella Modica ·
Claudio Ventura · Giovanni Ramacciato · Silvia Taccogna · Francesco Romanelli ·
Stefano Valabrega · Anna Crescenzi

- 21-G needle
- 40 Tir 3
- new sampling technique





Cytology
(FNA)

40
indeterminate
neoplasms

L



39
adequate samples

1
inadequate sample

Thin Core Biopsy

▼
5
papillary cancers

▼
6
Hürthle cell
proliferation with
lymphocytic
infiltrate

▼
8
adenomatous
hyperplasias

▼
20
follicular
neoplasms

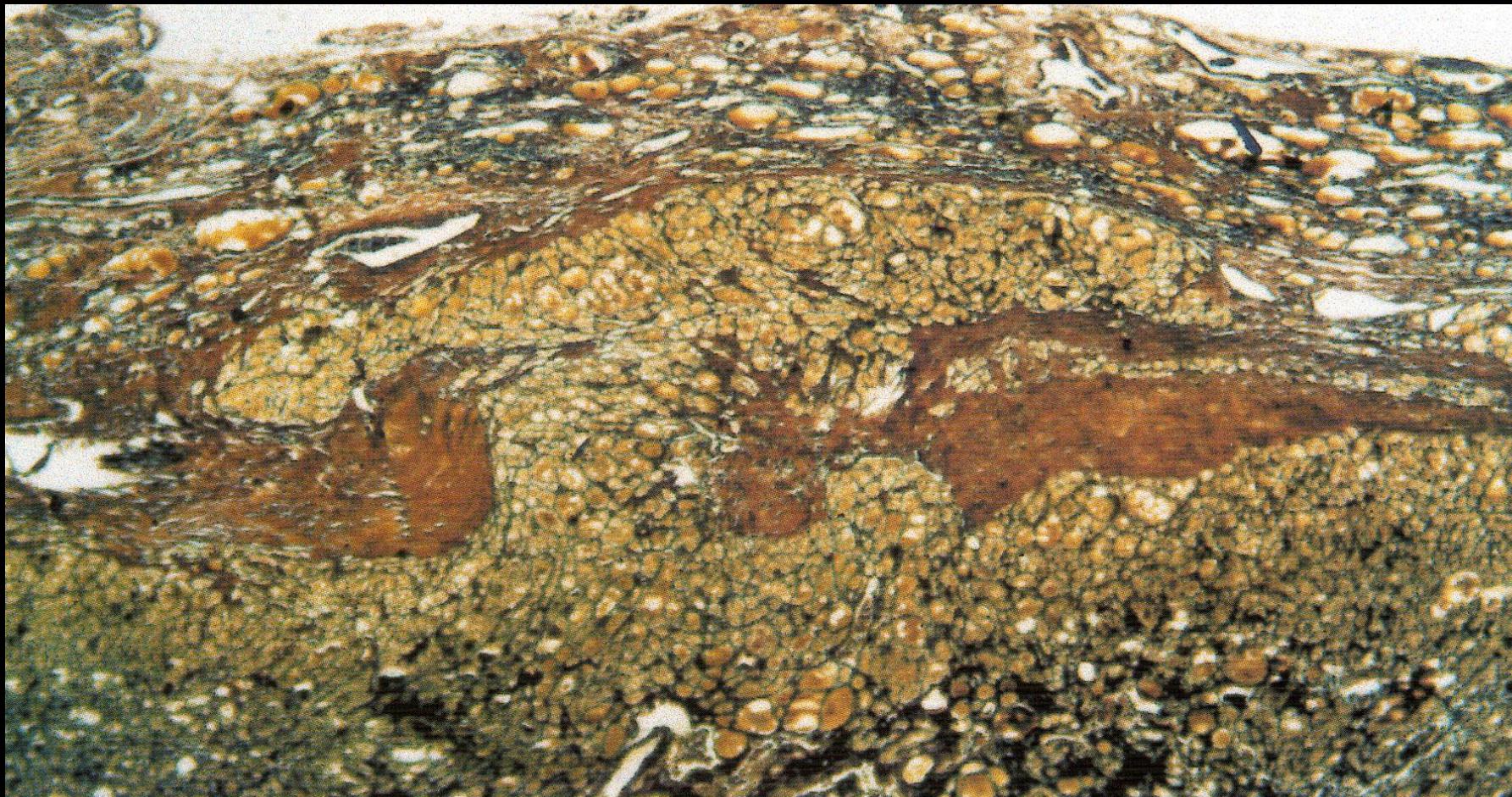
Histology

▼
5
follicular variant
papillary cancers

▼
19
adenomas

▼
1
follicular
cancer

FTC: evaluation of **whole capsule**



Conclusions

CNB: complementary test in nodules with non conclusive outcome by FNA

CNB vs FNA Reduced % of both inadequate and indeterminate reports

Combination of CNB/repeat FNA Improves the accuracy of CNB and conventional FNA as a single test.