



M. PRAET
University Hospital, GENT

Brussels,
November 17th, 2007

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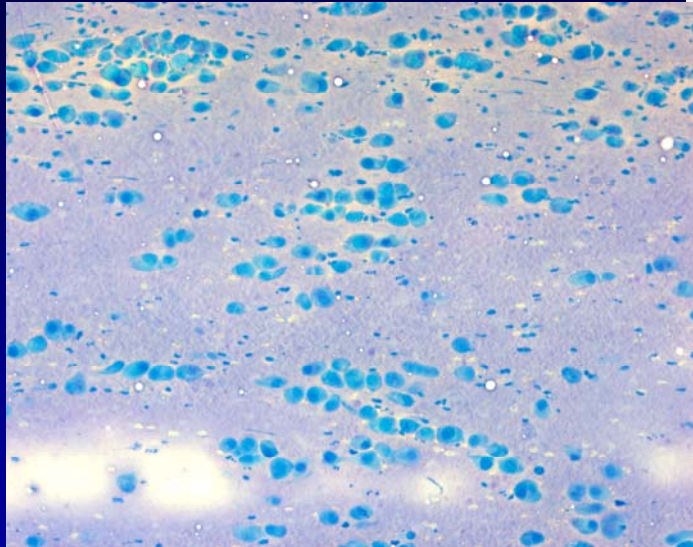
Case 3

- **69 years old man**
- **Clinical history:**
 - Mass in the lower neck region: thyroid?**
 - Lymphnode?**
 - This mass developed recently.**
- **FNA of the enlarged mass**

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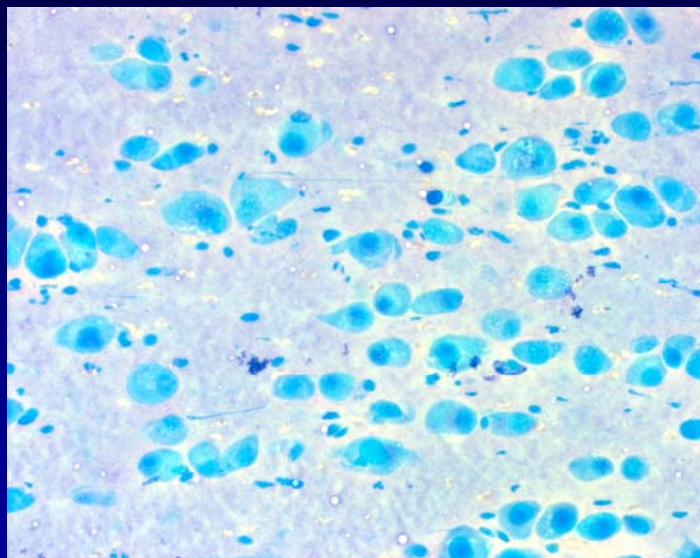
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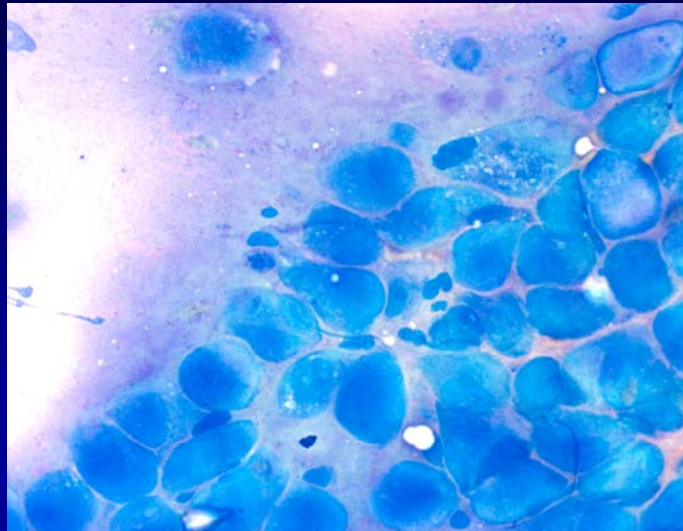
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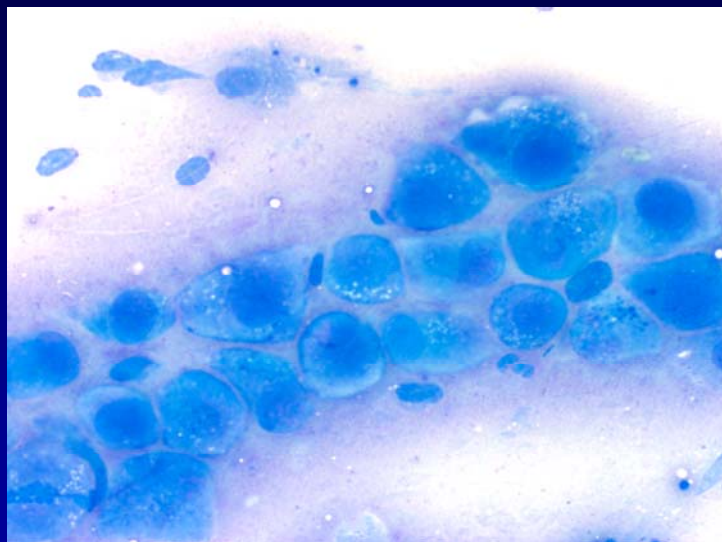
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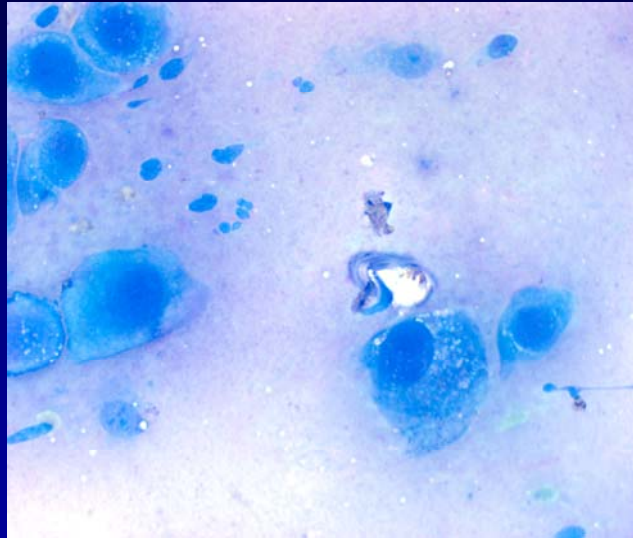
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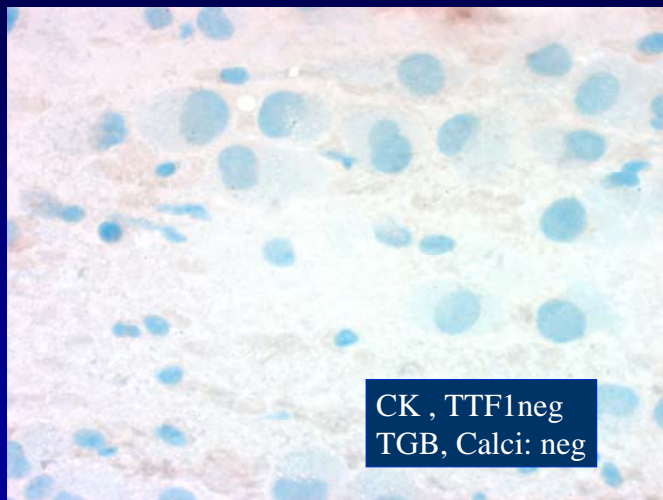
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CK , TTF1neg
TGB, Calci: neg

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Summary

- Polygonal , round, spindle shaped cells, basophilic cytoplasm with rare azurophilic granules
- Lack of intranuclear cytoplasmic inclusions
- Plasmocytoid features

- Immunostains: TTF1-, TGB -, Calcitonin-, CK7 -, AE1-AE3-

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Diagnosis?

- 1. Metastasis of adenocarcinoma**
- 2. Thyroid neoplasm: medullary carcinoma**
- 3. Thyroid neoplasm: papillary carcinoma**
- 4. Plasmocytoma**

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Suggested Cytological Diagnosis

- Neoplastic process
- Negative cytokeratin stains:
 - ◆ Anaplastic thyroid carcinoma
 - ◆ Poorly differentiated plasmocytoma

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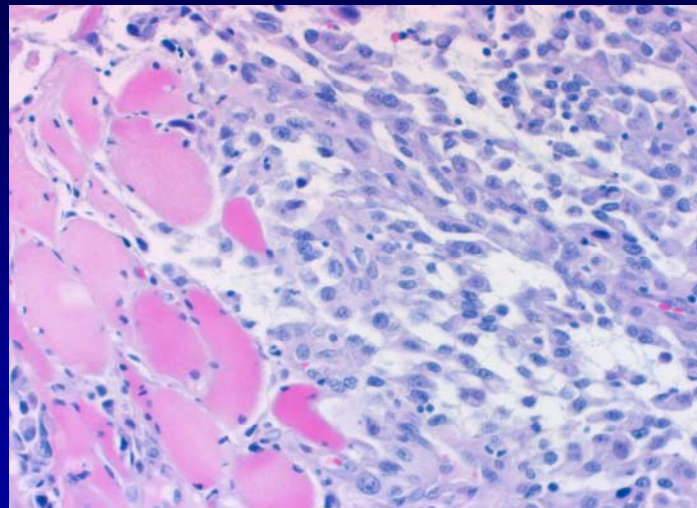
Diagnostic approach:

- Biopsy was taken from the neoplastic process in the left neck region extending into the submandibular region and the mediastinum with encasement of the large vessels:
 - ◆ Microscopy

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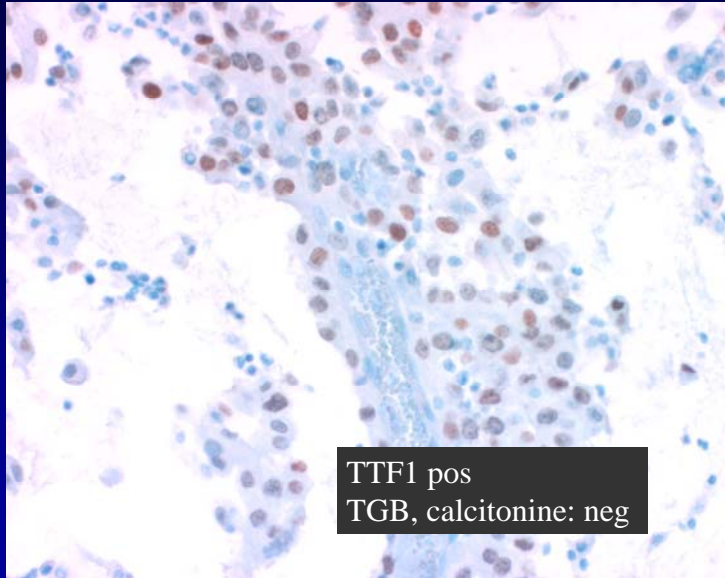
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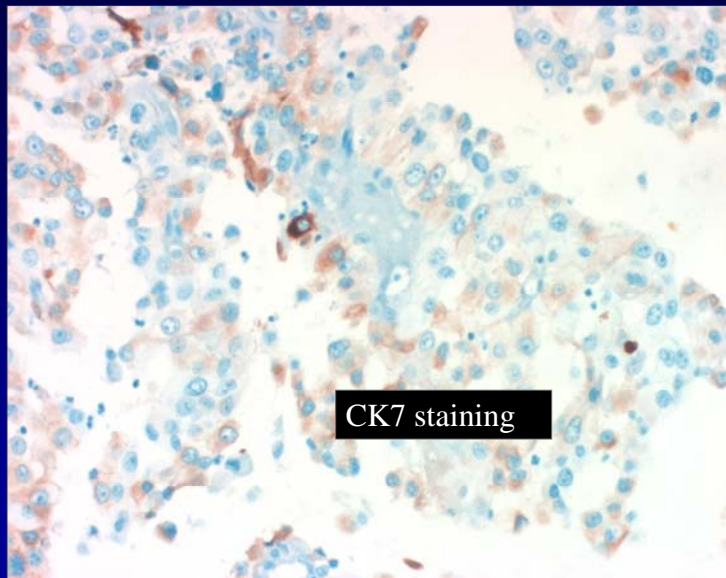
TTF1 pos
TGB, calcitonine: neg



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CK7 staining



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Diagnosis

- Thyroid neoplasm
- Anaplastic features in papillary growing neoplasm (spindle shaped cells)

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FU: Thyroidectomy

- Re thyroid gland : normal size (weight 17gms)
- Left “thyroid gland”: transformed into neoplastic mass measuring 11x10.5x5 cm and weighing 470 gms
- Involvement of the lymphnode regions 2 and 5 with metastatic invasion.

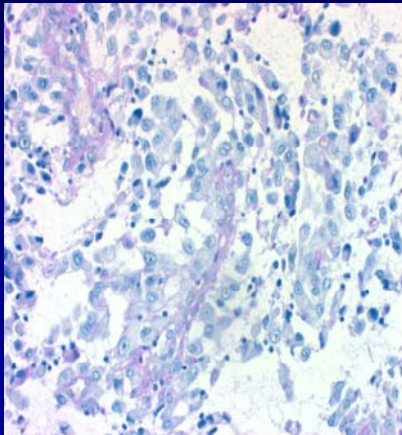
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Heterogeneous histology

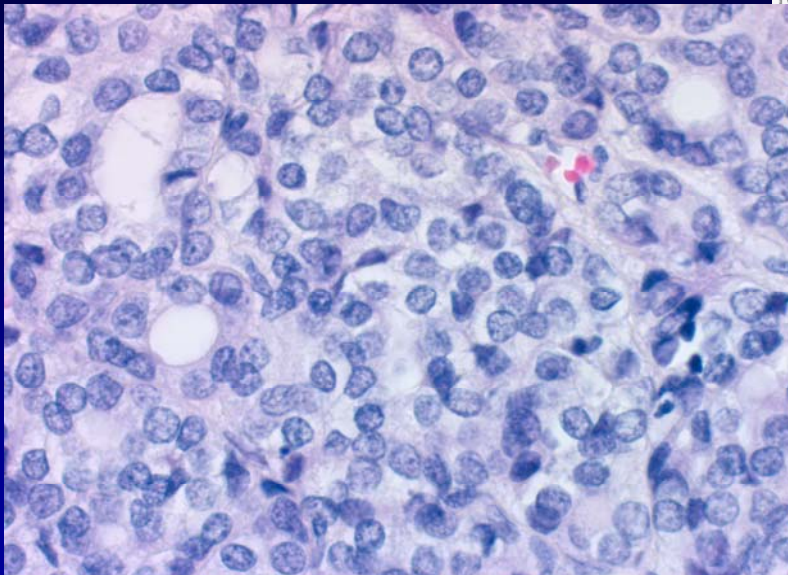


- Papillary arrangements of polygonal cells around delicate fibrovascular cores

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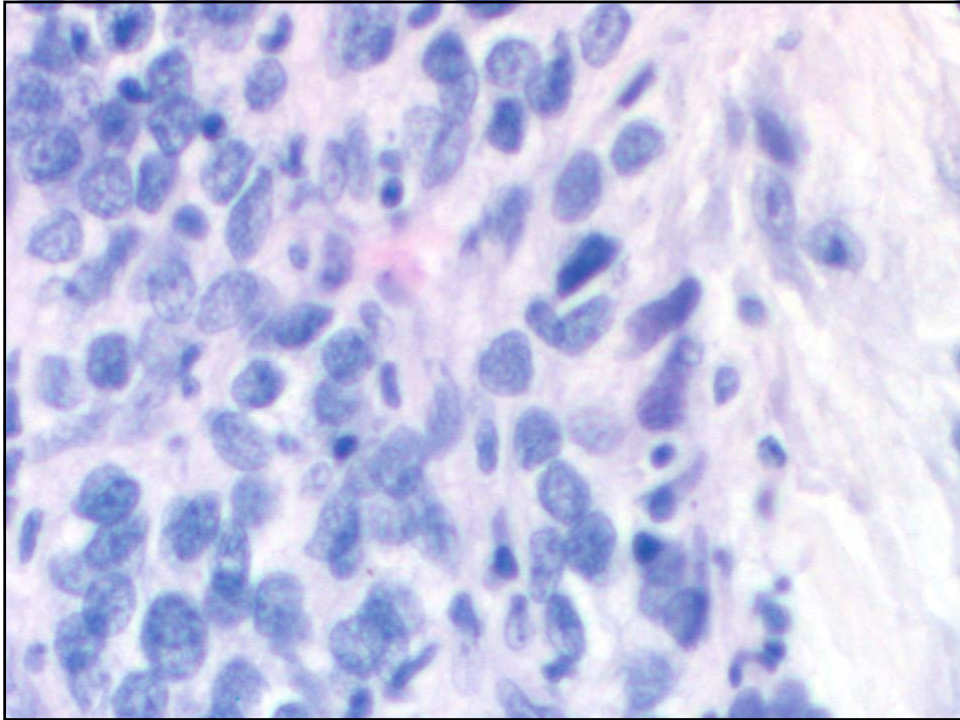
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CK7- CK19



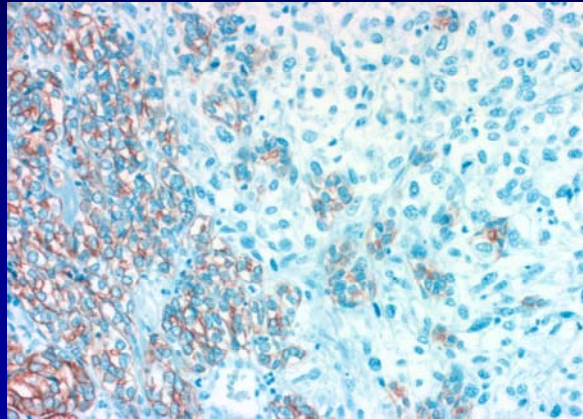
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HBME1



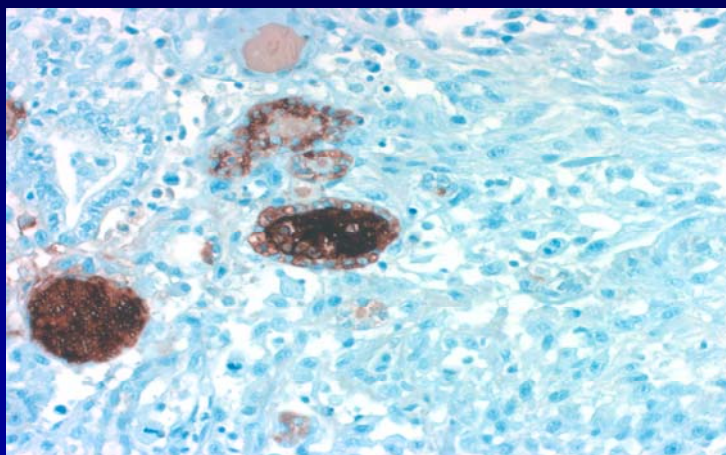
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Thyroglobulin



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Tall cell variant of papillary carcinoma evolving into an anaplastic carcinoma

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Discussion

- **Aggressive variant of papillary carcinoma, presenting in elderly and more common in males**
- **These tumors are usually > 5.0 cm in size.**
- **Are associated with poor prognostic features**
s. a. large size, extrathyroidal extension, vascular invasion

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Tall cell variant of papillary carcinoma

- Hawk and Hazard (1976): the many appearances of papillary carcinoma of the thyroid.
- Poorly defined in WHO : neoplastic cells have a height 3x the width
- Incidence varies between 3.2%-12% of papillary cancers

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Discussion

Differential diagnosis on cytology

- **Metastasis of adenocarcinoma (lung)**
CK 7 /TTF1/TGB
- **Medullary carcinoma: Calcitonine ---**
- **Papillary carcinoma: cellular features, TTF1- , TGB-**
- **Plasmocytoma**

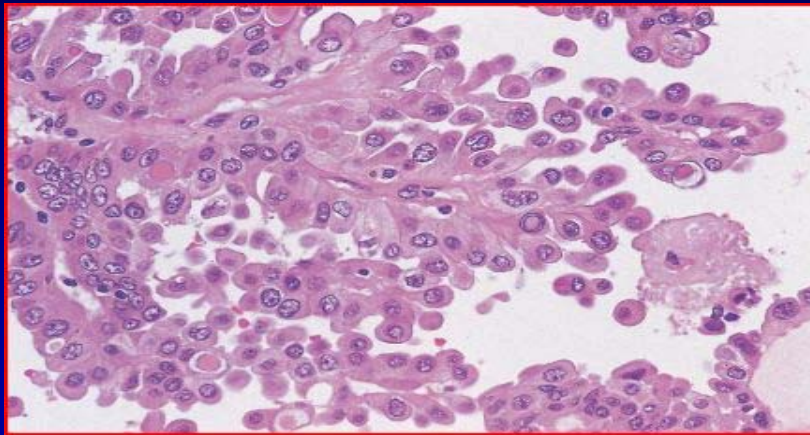
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Tall cell variant of Papillary thyroid carcinoma

(Diagnostic Histopathology of Tumors
Fletcher)



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Tall cell variant of PTC

Ostrowski 1996 Am J.Surg. Path 20, 964-974

- Heterogeneous on histology: different patterns: papillary, trabecular, follicular
- Cytological features: abundant eosinophilic to oxyphilic, somewhat granular cytoplasm. The nuclei are centrally or basally located.
- All tumors had intranuclear cytoplasmic inclusions and nuclear grooves.



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Treatment and follow up

- Radiotherapy.
- Enlarged mediastinal lymphnodes
- Metastatic nodules in the lung
- Nodule in segment 4 of the liver

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