

# Insular Thyroid Carcinoma. A Case Report with Fine Needle Aspiration Cytology

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## Introduction

Insular thyroid carcinoma (ITC) was first described as a distinct thyroid neoplasm by Carcangiu et al in 1984<sup>1</sup>. This rare, tumour is aggressive and often lethal<sup>2</sup>. ITC is classified morphologically and biologically as a tumour intermediate between well differentiated (papillary and follicular) and undifferentiated (anaplastic) thyroid carcinomas<sup>2,3</sup>. There have been only a few publications on cytological findings in fine needle aspiration (FNA) cytology of ITC<sup>4-7</sup>. We report a case of ITC and discuss its fine needle findings.

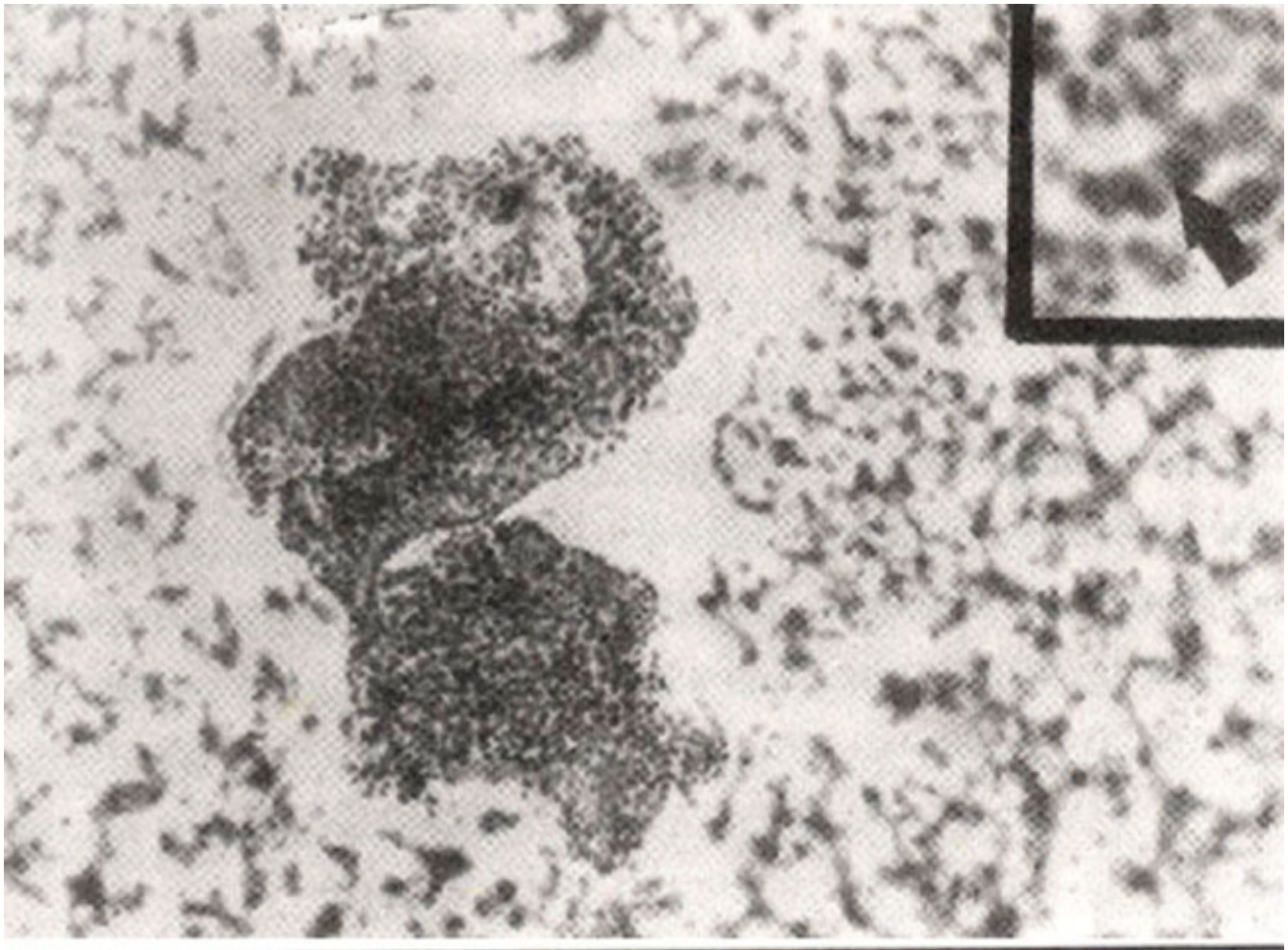
## Case Report

A 59-year female presented in 1997 with rapid enlargement of a long-standing nodular goitre. There was no history of exposure to radiation or family history of thyroid disease. Examination confirmed a multinodular goitre with hard nodules. There was no lymphadenopathy or distended neck veins. Thyroid function tests were normal and 1131 scan revealed cold nodules. FNA was done with a 23-gauge needle, fixed in 95% ethanol and stained with haematoxylin and eosin (H&E). The patient had a total thyroidectomy and was referred to the oncologist for follow up. She remains well 22 months after surgery.

## Pathological Findings

### Thyroid FNA Cytology

The smears consisted mainly of large multilayered loosely cohesive nests of uniform cells (figure 1).

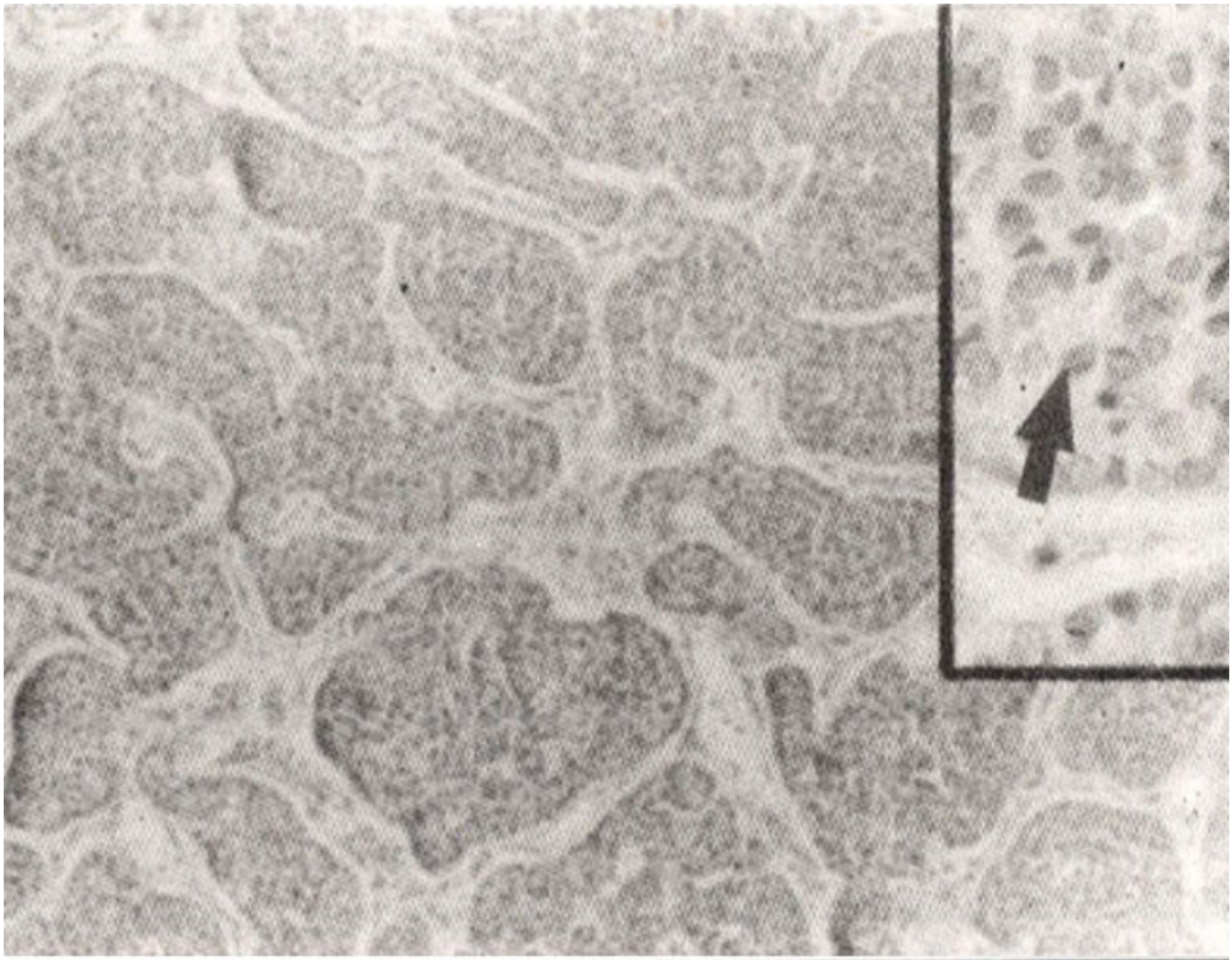


**Figure 1. Cohesive nests of uniform cells with occasional rosette like groups (inset, arrow) haematoxylin & eosin x100).**

Most nests were solid with occasional rosette like groups (Figure 1 inset, arrow). There were no true microfollicles. The round to oval tumour cells were small (0.2-0.4 mm) With scanty amorphous cytoplasm. The nuclei were granular and hyperchromatic with small indistinct nucleoli. Nuclear grooves and orphan Annie type clearing were absent. Papillary features and giant cells were not identified

#### **Thyroid Histology**

The right lobe measuring 50x33x21 mm in maximum dimensions was replaced by a firm multilobated mass. Cut surface was almost replaced by two circumscribed, non-encapsulated, variegated firm tumour masses measuring 40 mm in maximum diameter. On microscopic examination the tumour was composed of large round to ovoid, well defined nests of small uniform cells surrounded by a loose fibrovascular stroma (Figure 2).



**Figure 2: Nests of small cells surrounded by a loose fibrovascular stroma with small round follicles (inset, arrow) haematoxylin & eosin x100).**

There was artifactual retraction of the stroma resulting in clefts between tumour cells. Some nests contained small round haphazardly distributed follicles (figure 2 inset, arrow) giving a cribriform pattern. The cells had hyperchromatic nuclei with indistinct nucleoli. Mitoses were sparse. Thyroid capsule was not penetrated. There was no necrosis, vascular emboli or features of a papillary neoplasm.

### **Discussion**

Langhans in 1907 described a thyroid neoplasm composed of uniform cells arranged in a striking nesting pattern, with small cribriform lumina<sup>1</sup>. This tumour was recognised as a morphological entity with distinct biological behaviour in 1984<sup>2</sup>. It has a clinical course in-between the often curable well differentiated papillary and follicular carcinomas and the highly lethal undifferentiated anaplastic carcinoma<sup>1-3</sup>. The disease is slightly more common in females<sup>3</sup>. The mean age at time of initial diagnosis is 55 years<sup>4</sup>. Metastases to regional nodes, lungs and bone has been reported and often resulted in death despite aggressive surgical, external beam therapy and chemotherapy<sup>8</sup>.

### **References**

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