

## Multiplicity

80% due to  
multi centeric or  
intra thyroid  
lymphatic spread

Rare

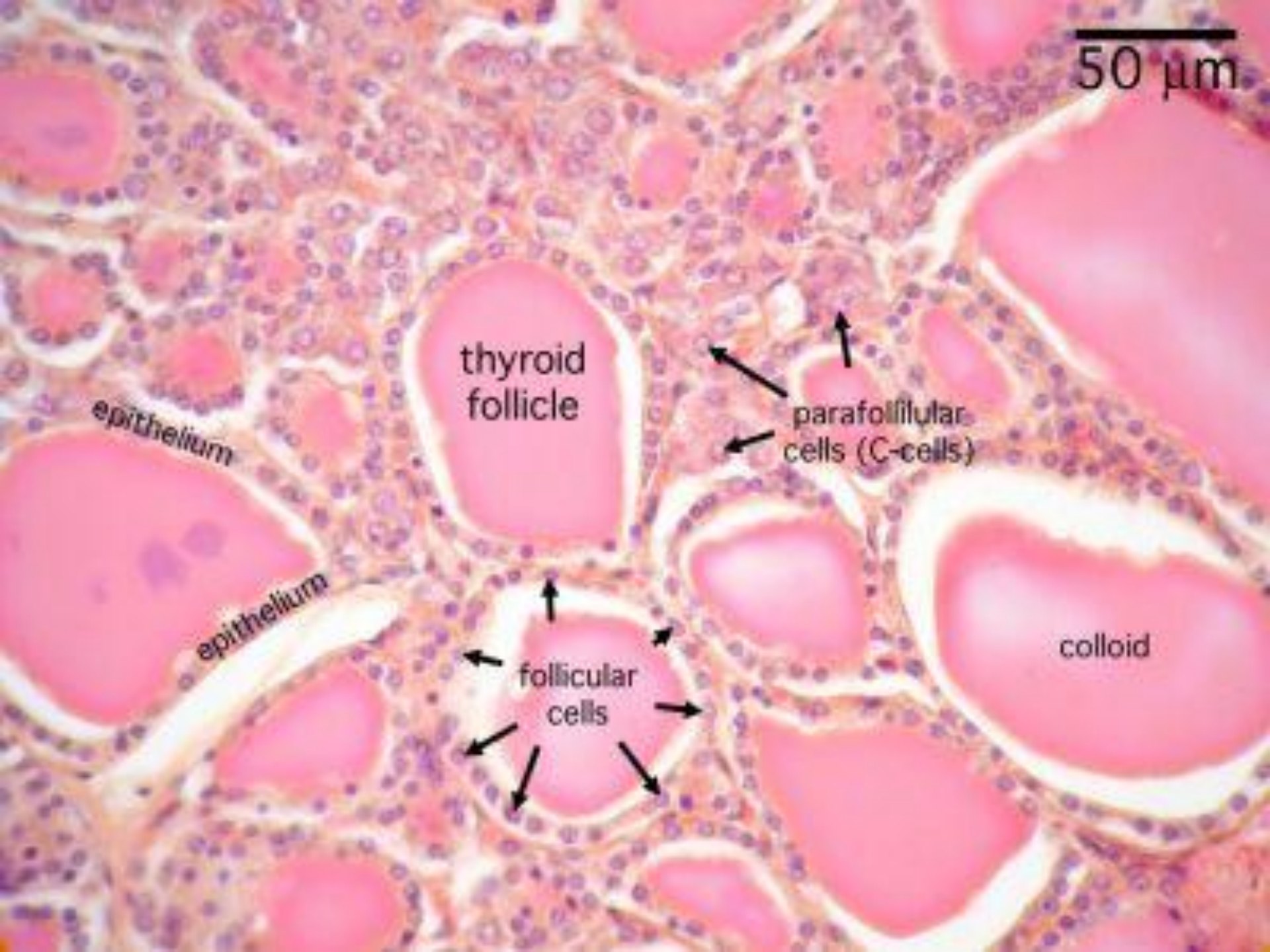
## Microscopic picture

Loss of polarity and  
signs of necrosis  
1-malignant papilla  
(vas c.t core  
covered with  
malignant cells  
2-psammoma  
bodies  
3-orphan Annie  
eyes

Loss of polarity and signs  
of necrosis  
  
Thyroid follicles with  
variable degree of  
Differentiation diagnosed  
by capsular & vascular  
invasion or metastasis .

Loss of polarity and signs  
of necrosis  
Cultures of spindle cells  
separated with little  
fibrous tissue.

50  $\mu\text{m}$



thyroid follicle

parafollicular cells (C-cells)

colloid

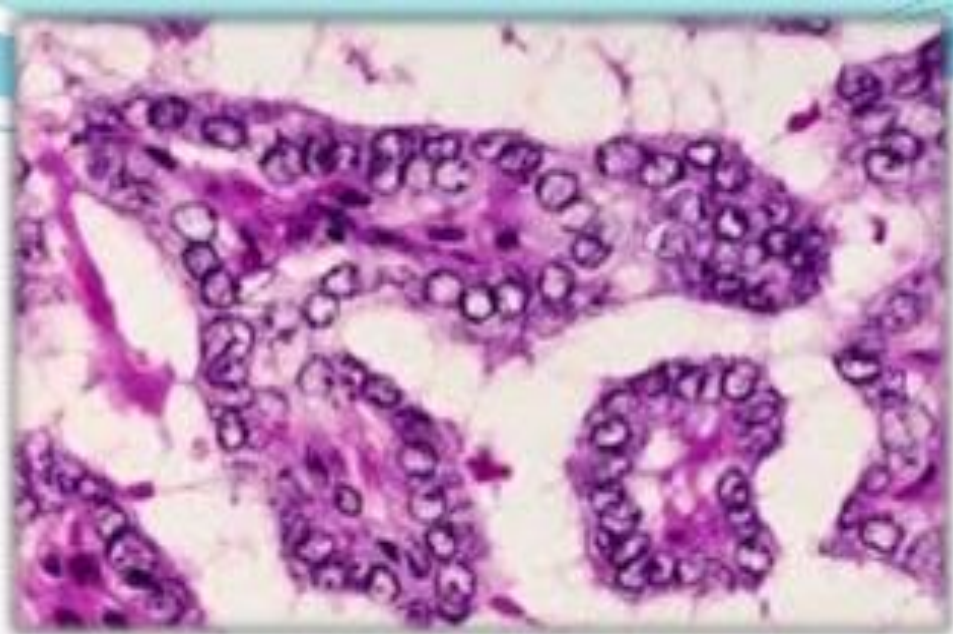
epithelium

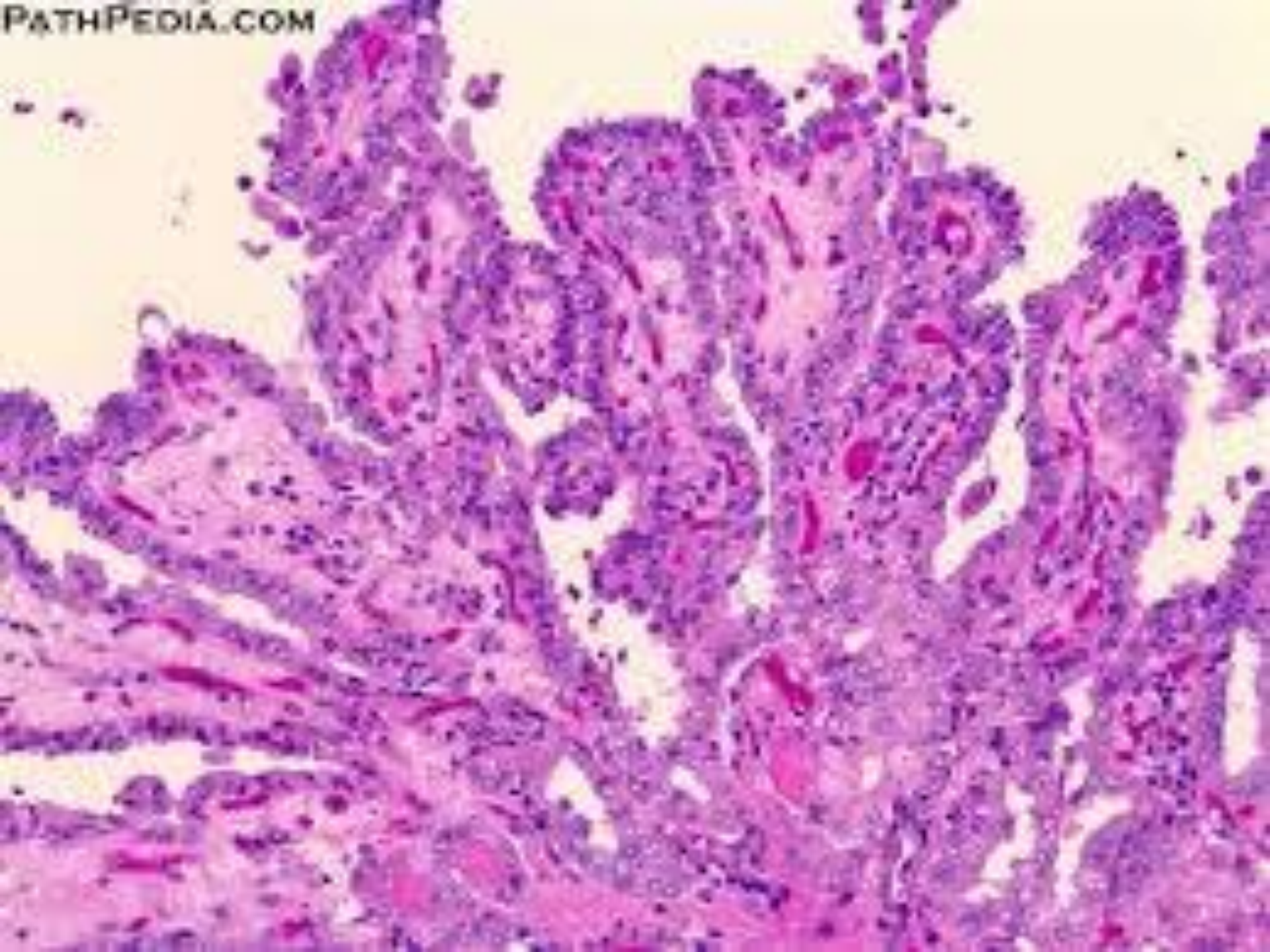
epithelium

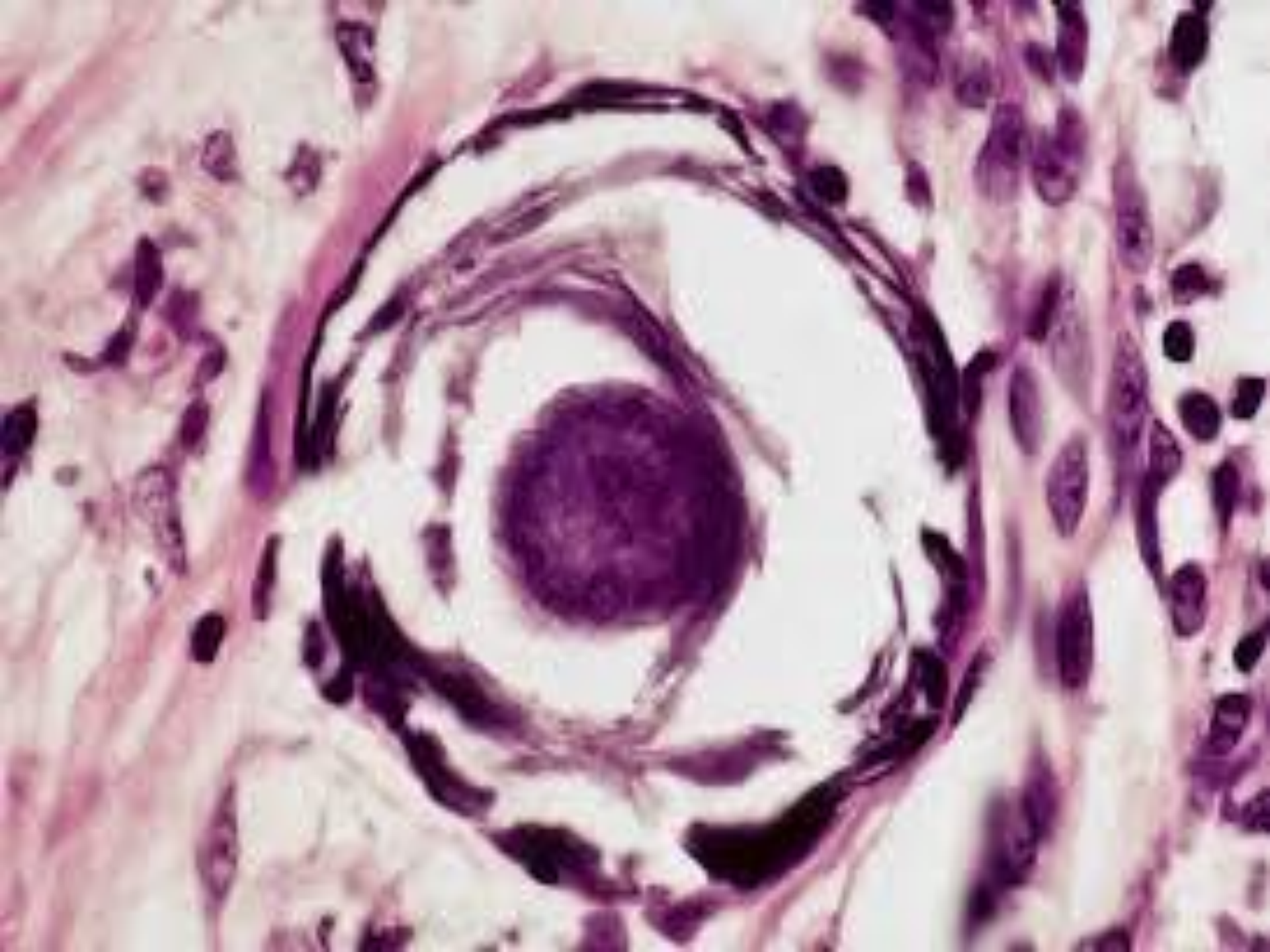
follicular cells

# Histology

- ❖ Papillary projections
- ❖ Orphan Annie eye nuclei
- ❖ Psammoma bodies







Spread	Lymphatic	Blood	Direct
TSH	Dependent	Less dependent	Non dependent
Prognosis	good	Bad	Very bad
10 year survival	90%	Encapsulated 97% Invasive 70%	Death within 1-2 years

# *Medullary carcinoma*

*Origin:* para-follicular C cells that secrete calcitonin

*Incidence :* 5 %

*Etiology :*

Sporadic which does not run in families.

Most MTCs are sporadic.

This form mainly affects older adults.

Inherited which runs in families.

You have an increased risk for this type of cancer if you have:

- A family history of MTC
- A family history of multiple endocrine neoplasia (MEN)
- Had prior history of pheochromocytoma, mucosal neuromas, or hyperparathyroidism

## Pathology:

Gross: may be single or multiple

microscopic :

sheets of anaplastic cells in hyaline stroma which may contain amyloid material

spread :




lymphatic to mediastinal L.N

blood mainly to the liver



# *Clinical features of thyroid cancers*

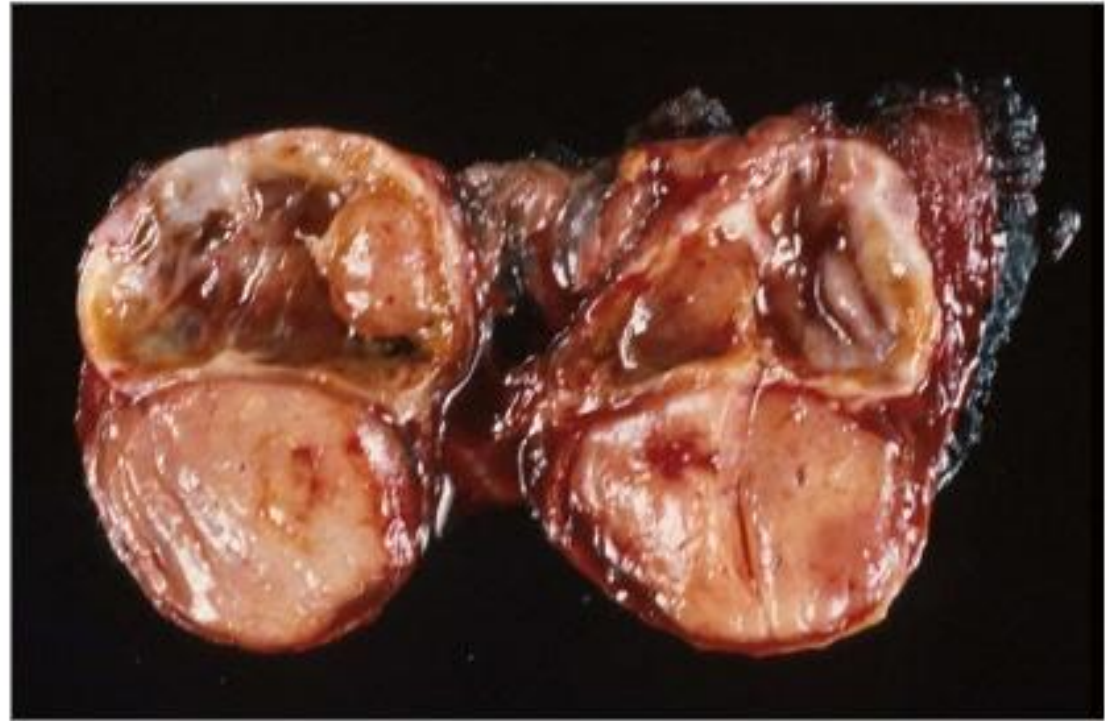
## **Type of patient :**

- Female 15 years old + thyroid swelling in neck & L.n  pappilary carcinoma
- Female 40 years + rapid progressive swelling in neck & skull metastasis  follicular carcinoma
- female old age + rapid progressive swelling in the neck & hoarsness of voice  anaplastic carcinoma

A 16-year-old patient with an asymptomatic palpable thyroid nodule noticed on routine physical examination



**Surgical specimen of a thyroid lobe of the same patient with  
**papillary carcinoma****



# Symptoms

➤ **Swelling** : in lower part of front of neck & rapidly growing with early infiltration of surrounding

➤ **pain** : late stage

➤ **disturbance or compressive manifestation :**

Dyspnea, dysphagea ,hoarseness of voice

horner \$

➤ **metastatic manifestations**





© Can Stock Photo

# Signs :

## General examination :

- cachexia
- metastasis
- ( skull metastasis ,
- jaundice, ascitis)



# Local examination:

## **A) Thyroid swelling :**

1- early : mobile , in a part or lobe of thyroid & firm to hard

2- late : hard , fixed , infiltrating the surroundings & restricted thyroid mobility .

**B) Neck LN may be enlarged & hard**

**c ) surroundings :**

1- trachea : fixed to the gland

2- carotid artery : absent carotid puls ( Berry's sign )

# *Complications*

➤ spread

➤ other complications

A local (infiltration of surrounding)

- recurrent laryngeal N : hoarseness of voice
- sympathetic chain: horner's \$
- trachea : dyspnea
- esophagus : dysphagia

B general

cachexia

metastasis ( jaundice , cough , hemoptysis , plural effusion )

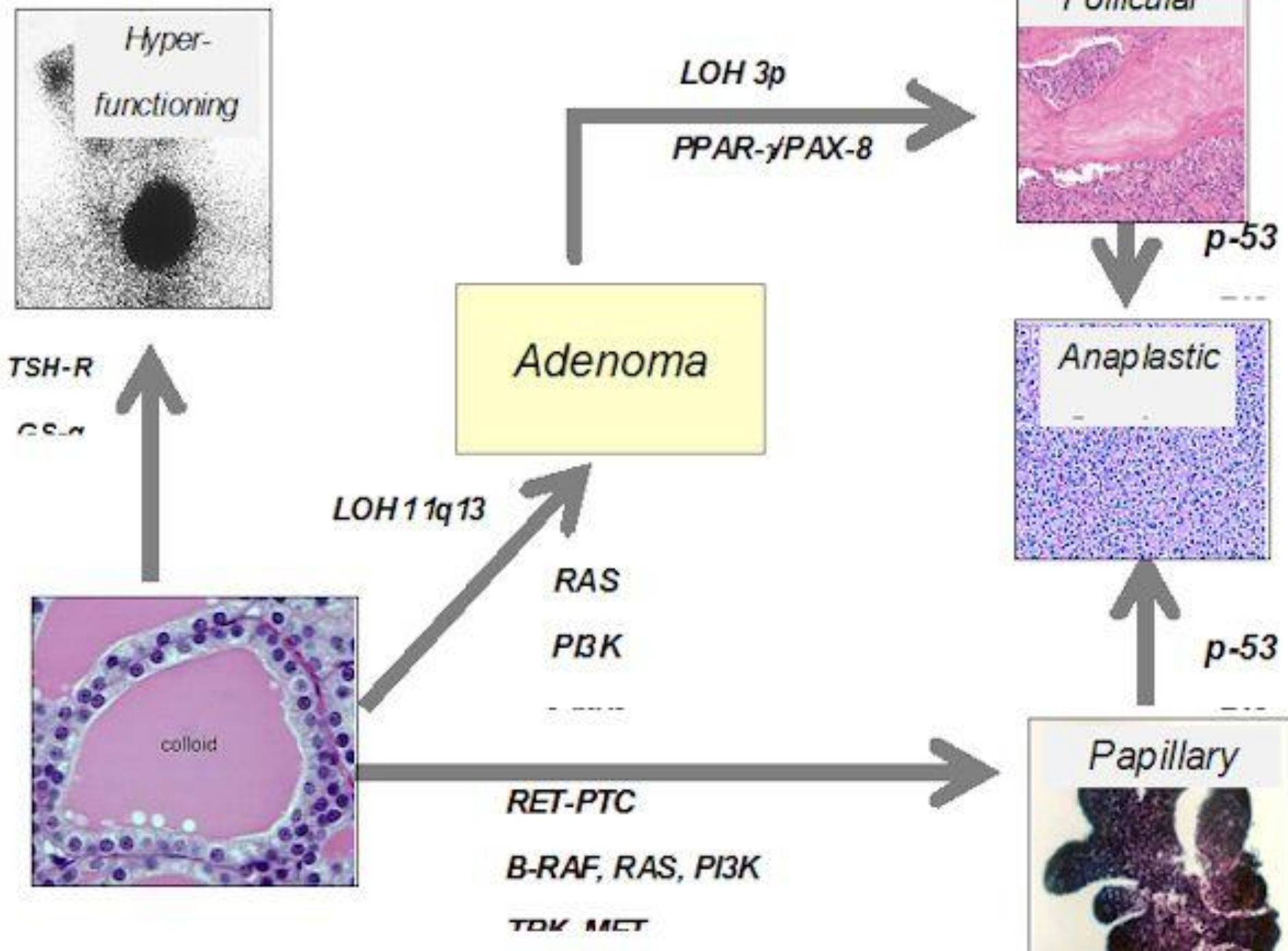


# *Grades*

G1: well differentiated

G2: moderately differentiated

G3 : poorly differentiated



# *Staging*

## **De Groot Staging (Philadelphia 1989):**

Stage I : tumor with single or multiple intra thyroid foci

Stage II : tumor with mobile neck LN

Stage III : tumor with fixed neck LN +/- local invasion

Stage IV : tumor with distant metastasis



**Thyroid Cancer Awareness**

# Risk Factors for Thyroid Cancer

## 1. Neck irradiation

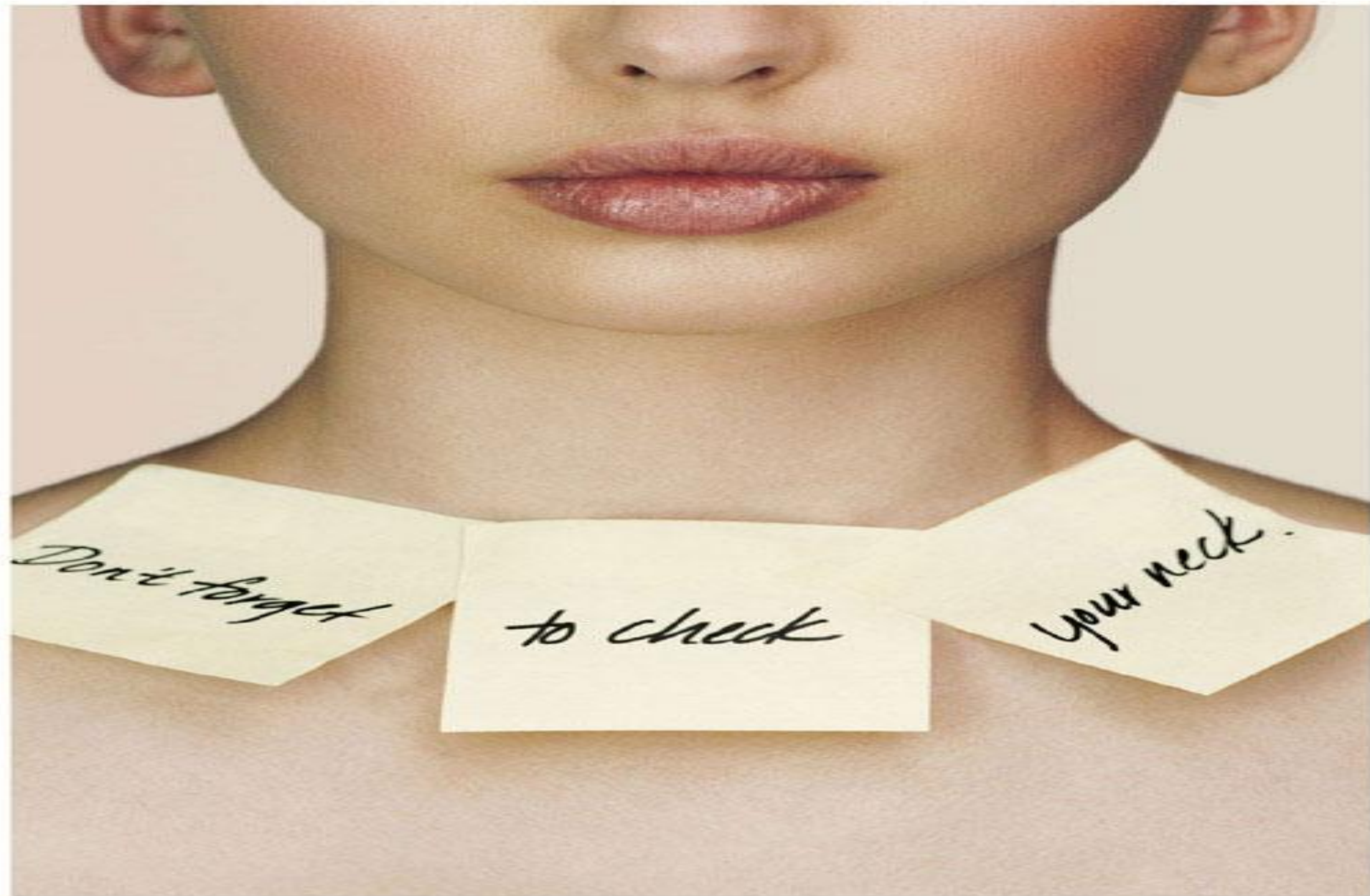
The only well-established risk factor for differentiated thyroid cancer.

## 2. Genetic factors

1. Papillary thyroid carcinoma may occur in several rare **inherited syndromes**, including
  - i. Familial adenomatous polyposis
  - ii. Gardner's syndrome
  - iii. Cowden's disease
2. Medullary carcinoma in MEN syndrome

## 3. Other risk factors

- i. History of goiter
- ii. family history of thyroid disease
- iii. Female gender
- iv. Asian race.



Ask your doctor to check for thyroid cancer.



Light of Life Foundation  
[checkyourneck.com](http://checkyourneck.com)

# *References*

- ❑ Bailey & Loves, Short Practice of Surgery.  
26th.Edition.
- ❑ <http://emedicine.medscape.com/article/845125-overview>.
- ❑ our lectures
- ❑ <http://www.cancer.net>

A close-up photograph of a person wearing blue medical scrubs and a stethoscope. They are holding a long, thin wooden sign with both hands. The sign has the words "thank you!" written on it in a black, cursive-style font. The background is plain white.

thank you!