

THYROID CARCINOMA IN CHILDREN. 7 YEARS EXPERIENCE OF A SINGLE CENTER.

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INTRODUCTION: Thyroid cancer is the most common pediatric endocrine cancer, constituting 0.5%–3% of all childhood malignancies. Cancer can be present in multinodular thyroid disease but the majority of malignant nodules are solitary. Thyroid malignancies in children are almost always well differentiated.

AIM: Prevalence, clinical features, pathological profile and therapy of thyroid cancer in children.

PATIENTS AND METHOD: Retrospective study of patients admitted with diagnosis of nodular goiter at Endocrinology Department, St. Spiridon Hospital, Iasi, Romania, between 2011-2018. Demographic data (sex/age), clinical examination, thyroid ultrasonographic features, hormonal profile, treatment (surgery or active surveillance) as well as histological aspects were recorded.

N. M. 11 years old, M
Nodular goiter - 2 months evolution



Fig. Nr. 1: Nodular goiter



Fig. Nr. 2: Thyroid ultrasound

- Multiple solid nodules, cysts, inflammatory adenopathy
- TI-RADS grade 4, TSH, ft4 normal, ATPO-neg
- FNA Bethesda II- BII

Fig. Nr. 3: Colloid goiter with adenomatous macrofollicular nodule, HE, x 4

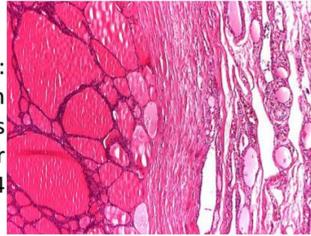
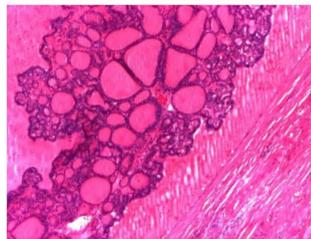


Fig. Nr. 4: Adenomatous nodule with area of hyperfunction and capsular sclerosis, HE, x 4



M. N. 12 years old, F - Toxic adenoma

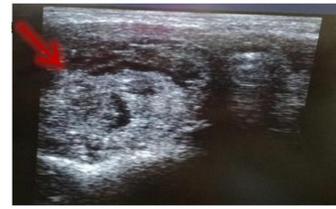


Fig. Nr. 5: Thyroid ultrasound

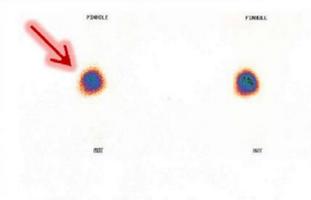


Fig. Nr. 6: Scintigraphic imaging : ➤ right toxic adenoma

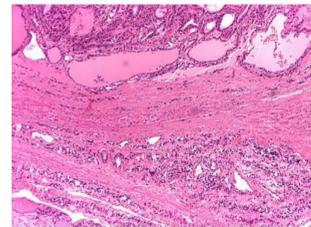


Fig. Nr. 7: Macrofollicular adenoma

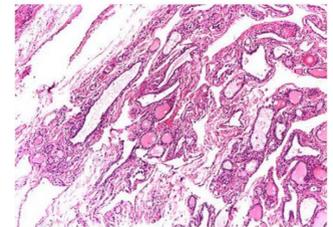


Fig. Nr. 8: Extranodular area with hypofunction

G. M. 14 years old, F

- Nodular goiter, 1 year evolution
- Right thyroid lobe nodule with 14,8 ml volume
- **Follicular carcinoma:** *pT3aN0 G1 LOV1 Pn0*
- 83,16 mCi I¹³¹

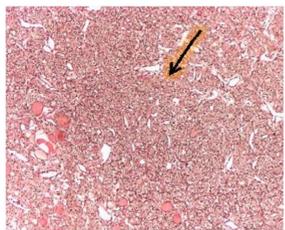


Fig. Nr. 9: Microfollicular and trabecular areas VG, x 4

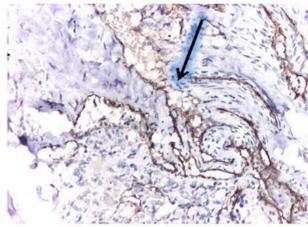


Fig. Nr. 10: Intravascular tumor emboli, CD31, x10

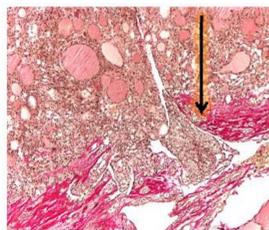
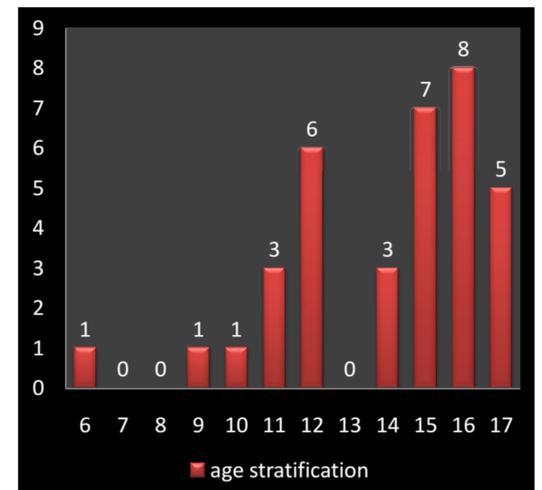


Fig. Nr. 11: Capsular infiltration, VG, x 4

Nodular goiter - 2011-2018

35 patients

Sex ratio



TREATMENT

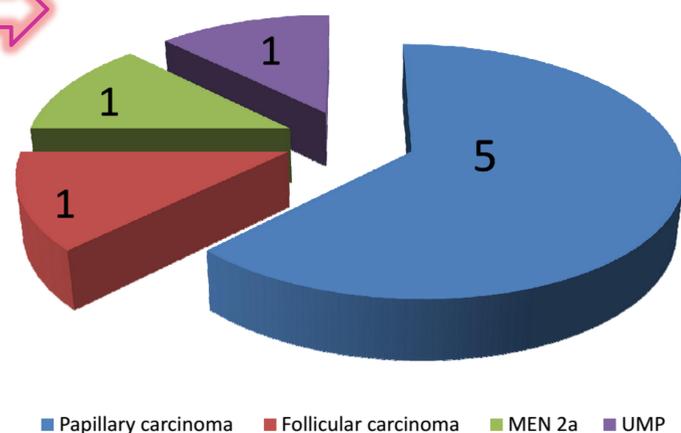
ETHANOL SCLEROSIS
1 CASE

OBSERVATION
18 CASES

SURGERY: 16 CASES

- Follicular adenomas 6 cases
- Graves disease + follicular adenoma 1 case
- Toxic adenoma 1 case
- Follicular carcinoma 1 case
- Graves disease + papillary carcinoma 1 case
- Papillary carcinoma 4 cases
- Medullary carcinoma (MEN2a) 1 case
- Well differentiated tumor of uncertain malignant potential 1 case

Thyroid carcinoma: 8 cases
- total prevalence 20%



CONCLUSIONS:

Nodular goiter is more frequent at the age of 12, 15 and 16. The prevalence of thyroid cancer is quite high (20%) with predominance of papillary carcinoma. The clinical examination and thyroid ultrasound are mandatory in diagnostic algorithm of thyroid carcinoma

References:

- Gary L. Francis et al, Management Guidelines for Children with Thyroid Nodules and Differentiated Thyroid Cancer The American Thyroid Association Guidelines Task Force on Pediatric Thyroid Cancer, *THYROID* Volume 25, Number 7, 2015.
- Nini Khozeimeh and Cynthia Gingalewski, Thyroid Nodules in Children: A Single Institution's Experience, *JOURNAL OF ONCOLOGY*, Volume 2011, Article ID 974125, doi:10.1155/2011/974125.
- Giovanni Guido Pompili et al, Use of the ultrasound-based total malignancy score in the management of thyroid nodules, *ULTRASONOGRAPHY*, 2018 Jan 6, doi.org/10.14366/usg.17063.