

The value of cytological, histological and US examination to determine of management children with nodular goiter

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Comparison of fine-needle aspiration data and histological study in 125 operated children (6-17 years)

Bethesda system for Reporting Thyroid Cytopathology	Number of patients	Histological study results				Mismatch diagnosis (%)
		Medullary thyroid cancer	Colloid goiter	Papillary thyroid cancer	Follicular adenomas	
Bethesda 1	1		1			1
Bethesda 2	49		34	4 (8,1%)	11(22.5%)	15(30.6%)
Bethesda 3	1		0	0	1	0
Bethesda 4	49		0	15(30.6%)	34	0
Bethesda 5 – 6	25	1	0	24	0	0
Total	125	1	35	43	46	16 (12.8%)

Intraoperative frozen section

44 nodules

Bethesda II – 5, Bethesda IV – 39

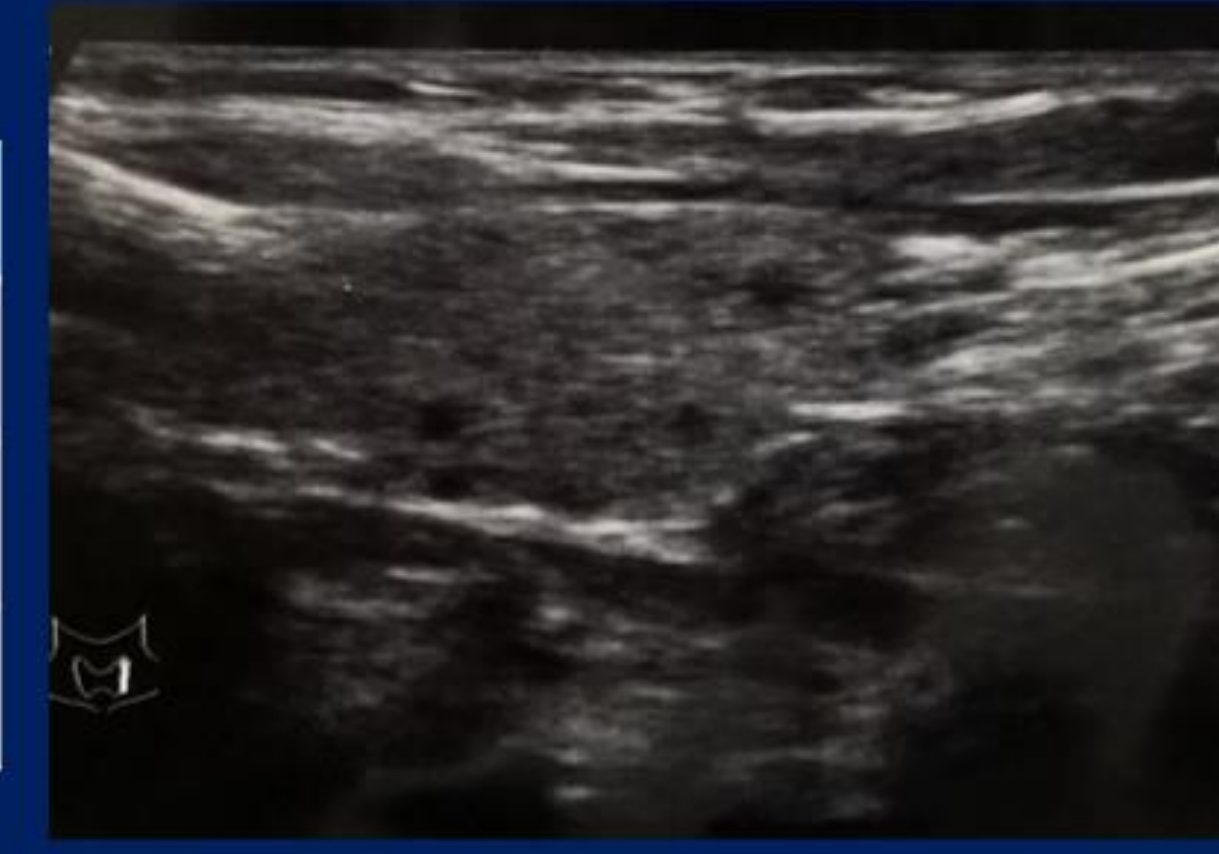
Thyroid cancer diagnosed - 5 nodules (11%)

Thyroid cancer undiagnosed - 10 nodules (22.7 %)

Continue improvement!

US picture in cases of mismatching of cytological and histological conclusion

Cytological conclusion	Histological conclusion	Nodule size
Bethesda 2	Papillary thyroid cancer	4 cm
Bethesda 2	Follicular adenomas	3.0 cm (1.7 - 4.0)
Bethesda 4	All cases	3.0 cm (1.5 - 6.5)



Tumors of the thyroid gland classification WHO 2017

Noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP) ICD-O code 8349/1

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Encapsulated follicular variant papillary thyroid carcinoma (eFVPTC) ICD-O code 8340/3

Χάος



χώρο



Introduction. Today, there are no clear indications for surgical treatment of nodular goiter in children. Current scheme of diagnostic evaluation thyroid nodules in children is not always justified. A number of patients either go to the removal of thyroid remnants when a carcinoma is found in the histological examination and the need for radioiodine therapy, or are at risk of surgery if the results of the final histology show that the disease is benign.

Aim. Optimization of management children with nodular goiter.

Materials and methods. Cytological findings in thyroid fine-needle aspiration biopsy, intraoperative frozen section and histological examination in 125 patients, 6 - 17 years old, operated for nodular thyroid formations from November 2015 to December 2017, were analyzed.

The mismatch in the cytological and histological diagnosis was found in 12.8% of patients, most of whom were in the group with the Bethesda II diagnostic category, four (8.1%) of them were diagnosed histological confirmed papillary thyroid cancer, 11 (22.5%) follicular adenoma. In the group of patients with Bethesda IV diagnostic category the percentage of malignant neoplasms reached 30.6%.

As for the intraoperative frozen section - only 5 from 44 cases with the initial diagnosis of a follicular tumor or a colloid goiter, the conclusion was carcinoma (11%). In other intraoperative frozen section did not differ from histological diagnosis. The attitude to this method in children is ambiguous. We hope for its development and improvement with the use of new technologies of material processing and its research.

The US picture in cases of mismatch between cytological and histological findings revealed a tendency to increase the size of the nodal formations. The dimensions of the nodes ranged from 1.5 to 6 cm. on average 3 cm. by the largest measurement are in all cases of the mismatch between the interpretation of NFA and histological diagnosis. The largest sizes - 4 cm. or more were noted in cases of a mismatch between colloid goiter or follicular adenoma and various variants of cancer.

Conclusion. All nodal formations according to the classification of Bethesda 3 and 4 are subject to surgical treatment. Colloid nodes of large size (more than 3.0 cm) are subject to surgical treatment even in the absence of compression and cosmetic defect.