Thyroid surgery in children and adolescents - 13 Years of experience

Katra Rami, Jurovčík Michal, Sýkorová Pavia, Sýkorová Vlasta, Dvořáková Šárka, Bendlová Běla, Skřivan Jiří

The aggressiveness of thyroid cancer is higher in children than in the adults as well as the speed of the development of metastasis. A total thyroidectomy with selective neck dissection is recommended in the treatment protocol of pediatric WDTC. Despite the more aggressive behaviour and recurrences, overall survival is assumed to be greater in children than in the adults and the mortality is rare in pediatric patients.

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Incidence of thyroid cancer is steadily growing in children and adolescent population. We consider total thyroidectomy with subsequent radioiodine ablation and TSH suppression as the basic approach in the treatment protocol of pediatric WDTC.

Prevalence of thyroid nodule in pediatric population 1-2 %.
Age group 0-14 ---- 0,1 : 100 000

Objectives:
The purpose is to evaluate the characteristics of thyroid gland surgery focusing on malignancies in the pediatric age with the main concern on treatment results and complications in extensive primary treatment.

156 pediatric patients with Malignant Thyroid Disease x (>266 – benign thyroid disease)

• The mean age at diagnosis was 14.3 years
• The youngest patient was only 32 months old
• Ratio between girls : boys 6 : 1

Most frequent histological cancer type was PTC (125 cases, 80%). FTC and sporadic MTC were diagnosed in 13 cases. A prophylactic thyroidectomy was performed in 22 cases without clinical signs of thyroid tumor with diagnosed RET gene mutation. One seven-year-old boy died of an extensive lung metastasis of PTC. The neck dissections (reg. II-V and VI) were performed in 54 cases (34%) of proven lymph node metastases.

Histological findings

PTC
MTC - sporadic
uncertain histology
FTC
MEN2 syndrome
PTC+MTC
Sasi APC
no malignity

The aggressiveness of thyroid cancer is higher in children than in the adults as well as the speed of the development of metastasis. A total thyroidectomy with selective neck dissection is recommended in the treatment of metastases of WDTC. Despite the more aggressive behaviour and recurrences, overall survival is assumed to be greater in children than in the adults and the mortality is rare in pediatric patients.

Ongoing projects:
Thyroid cancer in children and adolescents and its molecular genetic background.

We are using next generation sequencing for identified genes involved in pediatric thyroid cancer.

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thanks my family for their patience