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Primary thyroid carcinoma in the thyroglossal duct cyst – single institution experience

KEYWORDS: Thyroid Neoplasms; Thyroglossal Cyst; Surgery; Thyroidectomy

Background: The thyroglossal duct cyst (TDC) is the most common anomaly in development of thyroid gland. Only 1% of thyroid carcinoma primary involve TDC. Approximately 250 cases of TDC thyroid carcinoma have been reported until now. Aim of this paper is to report ten cases of primary TDC thyroid carcinoma and compare their clinical evolution according to surgical treatment.

Patients and methods: This is an retrospective study of patients treated in a single center during the last 20 years. There were 8 women and 2 men, mean age 45 years at diagnosis. Sistrunk's procedure was done in all cases followed by dissection of submental and prehyoid lymph nodes (LN) and bilateral biopsy of LN on the level of carotid artery bifurcation. In the same act 9 out of 10 patients underwent total thyroidectomy, while in one case we have performed isthmusectomy with partial resection of right lobe. In 3 cases of synchronous thyroid gland carcinomas operations were followed by dissection central neck compartment and frozen-section examination of lower jugular LN. In all cases of LN involvement modified radical neck dissections (MRND) were performed.

Results: Definitive pathology revealed 9 papillary and one follicular thyroid carcinoma in TDC. Synchronous thyroid gland carcinoma was found in 3 cases (30%). LN metastases were found in six cases (60%) with following distribution: submental in 3, prehyoid and central in 5, carotid artery bifurcation in 4 and lower jugular in 2 cases. MRND was done in 4 cases. Submental and prehyoid dissections were done in all 10 cases of TDC thyroid carcinomas. Central neck compartments were dissected in two cases of synchronous thyroid gland carcinoma and in one case of gross LN without thyroid gland involvement. In 5 pts adjuvant radioiodine therapy was applied. In a follow-up from 18 to 238 months all patients were alive.

Conclusion: Our results have shown that thyroid carcinomas primary originating in TDC were associated with synchronous carcinoma in thyroid gland in 30% and regional LN metastases in 60% of cases. According to obtained data we suggest that Sistrunk's procedure should be followed by dissection of submental and prehyoid LN and frozen-section examination of LN around carotid artery bifurcation bilaterally and MRND in case of involvement. Total thyroidectomy is advocated in respect to risk factors and central neck dissection, if thyroid carcinoma revealed on frozen-section. In such cases we suggest frozen-section examination of lower jugular LN and MRND.

Papillary thyroid carcinoma in children and adolescents

KEYWORDS: Thyroid Neoplasms; Carcinoma, Papillary; Child; Adolescence; Surgery

Background: Papillary thyroid carcinoma (PTC) in children and adolescents is rare malignancy but it shows extremely aggressive behavior. Gross lymph node metastases and distant metastases are common on first clinical presentation. Up to 90% of them have lymph node metastases in the neck and about 20% have distant metastases at the time of operation.

Patients and methods: From 1981 to 2004, twenty-nine children and adolescents were operated due to PTC. Median age at diagnosis was 15 years (Rang 7 to 21). At the time of diagnosis 18 (62%) patients had enlarged lymph nodes in the neck. Five of them (17%) had initial lung metastases. Total thyroidectomy (TT) with dissection of central neck and lower jugulo-carotid compartments was performed in all cases. Specimens were sent on frozen-section histology examination. Modified radical neck dissection (MRND) was performed in all cases with histological finding of lymph node metastases (LNM) in lower jugulo-carotid chain.

Results: Median tumor size was 13 mm (4-60 mm). All tumors were papillary carcinomas. Extrathyroid extension (pT4) was found in 11 (38%) and multifocality in 9 (31%) cases. LNM on standard HE histology were found in 24 (82%) patients in central neck compartment and in 20 (69%) in lateral neck compartment/s. In one child recurrent laryngeal nerve was resected due to tumor infiltration and preoperative paralysis. No other recurrent nerve palsy was observed. Transitory hypocalcaemia was registered in two children. Postoperative radioiodine therapy due to lung metastases was applied in five and ablative treatment in 9 (31%) patients with gross lymph node metastases. Median follow-up was 94 months (rang 28-251). Relapse occurred in 4 (13.7%) patients in primary not dissected lymph nodes, 10-37 months after initial surgery. Treatment of relapse was combined MRND with radioiodine and external radiotherapy. Overall survival rate was 100% in follow-up period.

Conclusion: Papillary thyroid carcinoma in children and adolescents is characterized with high incidence of locally advanced tumors, multifocality, lymph node metastases and distant metastases at the time of diagnosis. An extended total thyroidectomy – dissection of central and frozen-section examination of lower jugular neck compartments should be considered as primary surgical approach. In cases of LNM in lateral neck compartment modified radical neck dissection is obligatory. Surgery of loco-regional relapse is the therapy of first choice. Adjuvant therapy should be applied according to prognostic factors. Children and adolescents with thyroid cancer should be operated by well trained surgeon in order to provide long and quality life.



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Isotopes therapy in thyroid cancer

Frequency of malignancy of thyroid gland on the territory of municipality of Gornji Milanovac

KEYWORDS: Thyroid Neoplasms; Carcinoma; Iodine Radioisotopes; Postoperative Period

KEY WORDS: Thyroid Neoplasms; Incidence; Epidemiology

Thyroid carcinoma is the most common malignant tumor of the endocrine glands. Ninety percent of thyroid carcinomas are well-differentiated thyroid cancers (papillary and follicular). Initial therapy of differentiated thyroid carcinoma (DTC) is surgical. Patients with DTC should undergo: "near" total thyroidectomy; modified neck dissection sparing the sternocleidomastoid muscle (if cervical lymph node metastases are found), or modified radical neck dissection (if primary tumor invading beyond the thyroid capsule, and in women >60 years). Postoperatively, radioactive iodine (^{131}I) therapy should be performed in all patients, except in papillary micro/ carcinoma (<1 cm), according to the following indications: positive diagnostic whole body scintigraphy (WBS) (which should be performed 4-6 weeks after the surgery) combining with following values: thyrostimulating hormone (TSH) >30 mU/l, 24 hrs radioactive uptake >0.5%, and thyroglobulin (TG) >0.2 mg/l; and negative WBS combined with TG >0.2 mg/l. Radioiodine therapy (RAI) is applying according to the Protocol of thyroid cancer treatment in the Institute of Oncology in Sremska Kamenica since 1977. RAI is performed in a special isolated Therapeutic section, according to the "fixed dose" method: therapeutic dose of 3.7 GBq ^{131}I in cases of normal thyroid tissue remnants, and 5.55 GBq ^{131}I in cases of lymph node or lung involvement, and 7.4 GBq ^{131}I in cases of bone metastases. Patient is hospitalized until his activity decreased under 0.40 GBq (10.8 mCi). RAI should not be performed in pregnant women, women in lactation, hematological diseases, and if patient is in bad condition. After the RAI is done, patients require life-long thyroid hormone therapy and follow-up. Follow-up includes serum TG determinations obtained during T4 suppression of TSH and if metastases are suspected ^{131}I diagnostic WBS is performed after thyroid hormone withdrawal. Additional diagnostic procedures in suspicious cases are: WBS using $^{99\text{m}}\text{Tc}$ -MIBI, CT, MRI, and PET using ^{18}F FDG.

Background: The cancer of thyroid gland is the most common endocrine malignancy. Cancer of thyroid gland is also the most common reason of death in less than 1% of all malignancy, and in less of the 10% of the patients which suffer from thyroid cancer; because of that, it is considered as a relative non aggressive malignancy. The purpose of this work is to show the frequency of malignancy of thyroid gland on the territory of Municipality of Gornji Milanovac.

Patients and methods: The research instrument is the register of malignancy which belongs to oncology dispensery of the Health Center in Gornji Milanovac, for period from January 1, 1994 till September 1, 2006. The collected data were sorted in several categories which followed the incidence according to the sex, life time and histopathological verification.

Results: By retrograde analysis we concluded that from all of 1920 registered persons with malignancy, 11 (0.57%) suffered from thyroid cancer. There exists the significant difference of incidence in women 9 (81.8%), and according to the analysis based on the life time of patients, the most incidence is between people of 46 to 50 years old 4 (36.4%). The patohystological verification determines the same coexistence of papillary and follicular cancer in 4 patients (36.4%), followed by medullary in 2 patients (18.8%), and anaplastic cancer in 1 patient (9.1%).

Conclusion: Although the observed example is small, the results of this retrograde analysis are consistent with literature.