



Juvenile Thyroid Follicular Cancer: A Rare Case Report

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Introduction

Although all the thyroid carcinoma are rare in young adults but the Thyroid follicular carcinoma is the rarest one. Almost 90% of thyroid carcinomas are papillary while 6% of them are the follicular. The incidence of carcinoma thyroid in people in their twenties or younger age is absolutely rare i.e. 1 in million in world wide. The case I am presenting is a juvenile thyroid follicular carcinoma showing rapid growth of a goiter.

Case presentation

An 18 years old girl with simple complaints of swollen neck for two months was presented in our clinical setting. There was no past history of carcinoma thyroid in her family moreover no past history of thyroid nodule or any neoplasm.

On physical examination, there was a swelled neck.

Cervical examination done by ultrasonography revealed a diffusely enlarged right thyroid tumor showing a heterogeneous pattern though capsule formation wasn't clear.

Endocrine examination showed absence of thyroid antibodies and the patient was euthyroid, as shown in Table 1

Chest X-ray showed a dense shadow of the neck along with a tracheal shift to the left.

CT scan showed airway constriction and a right thyroidal lesion.

Fine Needle Aspiration Cytology showed results consistent with Follicular carcinoma thyroid. A Follicular neoplasm was suspected.



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The procedure of Right thyroidectomy was then performed, based on the clinical and diagnostic. Chest X-ray showed a dense shadow of the neck along with a tracheal shift to the left.

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Fine Needle Aspiration Cytology showed results consistent with Follicular carcinoma thyroid. A Follicular neoplasm was suspected.

The procedure of Right thyroidectomy was then performed, based on the clinical and diagnostic results.

Moreover a pathological diagnosis of follicular carcinoma was made on the basis of examination of resected thyroid lesion. Cancer recurrence was not observed for a period of 1 year after surgery.

Table 1

| Thyroid-Related Laboratory Data Normal Range | | |
|--|------------|------------|
| TSH | 2.15 µU/mL | 0.33-4.05 |
| FT4 | 0.93 ng/dL | 0.97-1.69 |
| FT3 | 4.18 pg/mL | 2.30-4.00 |
| Tg | 1632 ng/mL | 0.00-33.70 |
| TgAb | Negative | <13.6 |
| TPOAb | Negative | <2.6 |
| CEA | 0.69 ng/mL | <5 |
| sIL-2R | 391 U/mL | <391 |

Discussion

Carcinoma thyroid is very rare in young females and the follicular variant is absolutely rare. Commonly seen amongst them is simple goiter [1]. Thyroid cancers tend to be more in middle aged to elderly females. Among adult population prevalence of nodule is 2-6 % (by palpation) and 19-35% (by ultrasound) [2].

The prevalence of nodule as per few studies in pediatric population comes out to be 0.2- 5.1% (by ultrasound). The malignancy rate although varies in both groups and found out to be higher in children (25%) than adults (5%) [3].

There has been no well-documented report regarding the occurrence of follicular carcinoma in teenagers; however, in a 20-year study on thyroid cancer in children and adolescents in China, 7 (8.4%) of 83 patients were reported to have follicular carcinoma [4].

Adult carcinoma thyroid are not that aggressive as compared to the childhood - onset thyroid carcinoma, as the later ones are more metastatic [5].

So the early detection and treatment of thyroid nodule in children requires more attention as compared to the adult. Although the prognosis of follicular carcinoma in children is good despite of neck and distant metastasis [6].

In addition, the general development and thyroid function of children born from mothers with childhood-onset thyroid carcinoma do not seem to be affected by their former diseases [7].

The radical treatment for childhood-onset thyroid carcinoma is not only thyroidectomy but radioiodine ablation can also be chosen. Radioactive iodine ablation has been found really effective against the inoperable cases. Moreover has reduced the risk of loco regional and distant recurrence too [8].

Other cancer risks have been accelerated with radio iodine therapy. Specially of rectum, colon, and salivary gland. It has altogether increased the risk of soft tissue, bone cancer, Leukemia and pulmonary fibrosis [9].

Therefore, the balance of benefits and risks should be carefully considered. Pediatric follicular carcinoma has a lower frequency of metastasis and a lower grade of malignancy than those of papillary carcinoma [10]

Keeping in view this rare case, the children with cervical lesions should be followed up carefully and when past or family history is also consistent with the growing potential in any young cases. It should be assessed readily by clinical and cytological procedures.

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