CASE REPORT

CUTANEOUS METASTASES OF FOLLICULAR CARCINOMA THYROID DIAGNOSED BY FINE NEEDLE ASPIRATION CYTOLOGY

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ABSTRACT: INTRODUCTION: Cutaneous metastasis of follicular carcinoma of thyroid is rare. There are fewer than 30 cases reported in the literature, majority affecting the scalp. **CASE HISTORY:** 55yrs old female presented with swelling over right side of the forehead. FNAC from the nodule showed uniform sized epithelial cells arranged in repetitive follicular pattern & rosettes, suggestive of follicular carcinoma of thyroid. **RESULTS:** Morphological features of follicular carcinoma thyroid are unique in FNAC smears & hence we came to the diagnosis of follicular carcinoma thyroid on FNAC of forehead nodule. **DISCUSSION:** Cutaneous metastasis explains the aggressive nature of the disease & they have contributed to poor outcome. Average length of survival after diagnosis of cutaneous metastasis from follicular carcinoma thyroid is 19 months. **CONCLUSION:** We have presented an unusual case of aggressive follicular carcinoma thyroid with wide spread cutaneous metastases.

KEY WORDS: Follicular carcinoma, FNAC forehead, Cutaneous metastases

INTRODUCTION: Follicular carcinoma thyroid is the second most common thyroid malignancy following papillary carcinoma. There are fewer than 30 cases of cutaneous metastasis of follicular carcinoma thyroid reported in the literature, majority affecting the scalp. Follicular thyroid carcinoma is composed of normal-looking thyroid follicles with or without mild anaplasia. Diagnosis depends mainly on vascular or capsular invasion.¹ When such invasion is failed to be detected, the first evidence of malignant follicular tumor may be appearance of distant metastasis generally to bone and lungs.¹ Cutaneous metastasis from follicular thyroid carcinoma is rare and fine needle aspiration (FNA) is an important method for rapid diagnosis of such lesions.

CASE HISTORY: 55yrs old female presented with swelling over right side of the forehead (figure 1). CT head Showed lobulated enhancing isodense mass in right frontal region with erosion of adjacent calvarium & extension into pericranial soft tissues. CT morphology was suggestive of metastases/lymphomas. FNAC from the nodule in the forehead was performed and the slides were stained by PAP stain and Leishman stain. FNAC from the nodule showed uniform sized epithelial cells arranged in repetitive follicular pattern & rosettes, suggestive of follicular carcinoma of thyroid (Figure 2, 3). Later, detailed history was taken from the patient and got the history of total thyroidectomy done 10yrs back.

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DISCUSSION: Follicular carcinoma accounts for 10-20% of all thyroid cancers². They tend to present in women with peak incidence in 40-50 years. Incidence of follicular carcinoma is increased in areas of dietary iodine deficiency, suggesting that nodular goiter may predispose to the development of the neoplasm.³ Metastases occur in less than 1% of the patients with the minimally invasive carcinomas with capsular invasion only, in less than 5% of those with vascular invasion, and in as many as 80% of those with widely invasive tumors.^{4,5,6} Distant metastases at the time of diagnosis are reported in 11-20% of patients & may be the reason for presentation. Distant metastasis of follicular carcinoma can manifest after a period of 10 years. Most common sites of metastasis of follicular carcinoma thyroid are bones, lungs & CNS. Follicular carcinoma of thyroid rarely metastasizes to skin, but when they do so, scalp is the site of predilection. However, cytology smears from thyroid mass as well as skin nodules show epithelial cell clusters forming microfollicles/rosettes in a repetitive manner consistent with well-differentiated follicular thyroid carcinoma with metastasis to skin.⁷ The overall rarity of cutaneous metastasis from follicular thyroid carcinoma is reflected by the presence of only 15 such cases previously reported in English language literature.^{8,9} However, only 2 cases of diagnosis of cutaneous metastases from follicular carcinoma thyroid by Fine Needle Aspiration Cytology have been reported². Morphological features of follicular carcinoma thyroid are unique in FNAC smears & hence we came to the diagnosis of follicular carcinoma thyroid on FNAC of forehead nodule. Cutaneous metastases explain the aggressive nature of the disease & they have contributed to poor outcome. Average length of survival after diagnosis of cutaneous metastasis from follicular carcinoma thyroid is 19 months¹⁰.

CONCLUSION: We have presented an unusual case of aggressive Follicular carcinoma thyroid with wide spread cutaneous metastases. This patient has high risk, with probable poor prognosis for surgical management because of the extensive demonstrable radiographic skull involvement.

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Figure 1: swelling in the forehead Figure 2: 10X FNAC smear showing repetitive microfollicles and rosettes in Follicular carcinoma thyroid

Figure 3: 40X FNAC smear showing uniform sized cells with mild nuclear atypia in Follicular carcinoma thyroid