

Case report

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## Multiple giant scalp metastases of a follicular thyroid carcinoma

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### Abstract

**Background:** The occurrence of skin metastases are rare events in the course of a follicular thyroid carcinoma (FTC) and usually indicate advanced tumor stages. The scalp is the most affected area of these metastases.

**Case presentation:** We present a case of a 76 year old Woman with multiple giant scalp metastases of a follicular carcinoma. These metastases had been resected and wounds had been closed with mesh graft. The 14-months follow up is presented.

**Conclusion:** We demonstrate another case with multicentric form. Because of its location and size a primary wound closure was not possible. A healing could be reached using vacuum therapy and mesh graft transplantation.

### Background

The occurrence of skin metastases are rare events in the course of a follicular thyroid carcinoma (FTC) and usually indicate advanced tumor stages. The scalp is the most affected area of these metastases [1-6]. Operations are mostly performed with palliative intention. We present a case with extensive and symptomatic scalp metastases in a female patient. The tumors were resected under general anaesthesia. Mesh graft was successfully used to cover the skin defects.

### Case presentation

A 76-year old female patient had the initial diagnosis of FTC 18 years ago. She had total thyroidectomy with bilateral neck dissection and multiple reoperations for recurrent tumor. Because of an irresectable local recurrence

with tracheal infiltration a tracheotomy was performed two years ago. Five sets of internal radiation therapy, had been performed one year ago with a cumulative activity of 55.400 MBq<sup>131</sup>I. She was admitted to our hospital because of four intensively vascularized scalp tumors, two of them of hen's egg size (Fig. 1a, b, and 2) which showed recurrent episodes of contact bleeding during hair dressing. Computed tomography revealed multiple pulmonary, hepatic and bone metastases. Thyreoglobulin level was highly elevated (6750 ng/ml) Nevertheless the patient was in a good general condition. We performed a resection of the scalp tumors under general anesthesia. Histopathology confirmed cutaneous metastases of FTC (Fig. 3). The places of resection were primary left for granulation. After achievement of a clean granulation area using vacuum therapy (V.A.C.<sup>®</sup>, KCI International, Amster-



**Figure 1**  
a) and b) Two scalp tumors at admission of the patient, lateral view.

dam, The Netherlands) we performed a mesh graft skin transplant (Fig. 4a, b).

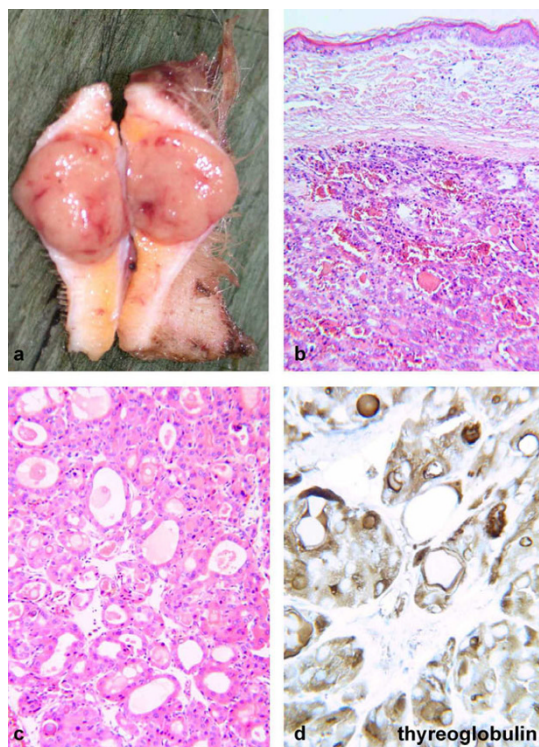
A follow up examination fourteen months later showed a very good cosmetic result with nearly complete healing of the mesh graft transplant (Fig. 5a, b). Because the local neck tumor had continued to grow the patient was now convinced to accept external radiation therapy and was admitted to our department of radiation oncology.

**Discussion**

Follicular thyroid carcinomas (FTC) often spread to bones and lung [7]. The occurrence of cutaneous metastases is a rare event. Many different locations have been described as abdomen, back and front thigh [8], but predominantly the skin of head and neck is affected [1-6]. In a review of the literature Quinn and coworkers [1] found scalp metastases in 9 of 14 patients with cutaneous metastases of FTC. In a study of Erickson and coworkers [9] none of 5 FTC



**Figure 2**  
Giant parietal scalp tumor and to additional smaller tumors, intraoperative view.



**Figure 3**  
Operative specimen, Haematoxylin-Eosin and Thyroglobulin staining.

metastatic to the skin showed BRAF(V600E) mutation (T1799A).

**Conclusion**

We demonstrate another case with multicentric form. Because of its location and size a primary wound closure



**Figure 4**  
Mesh Graft transplants. a) Retroauricular mesh graft transplant; b) Parietal mesh graft transplant.



**Figure 5**  
14 months follow up. a) view from on high; b) lateral view.

was not possible. A healing could be reached using vacuum therapy and mesh graft transplantation. The palliative long term cosmetic and functional result was excellent.

### Competing interests

The authors declare that they have no competing interests.

### Authors' contributions

KC had idea to publish the case report and drafted the manuscript, UR was our pathologist and performed the immunohistochemistry, AR and MK helped to search and analyse thoroughly the literature, AR and WTK performed the initial operation, mesh graft transplantation and follow up examination of the patient. They also initiated the temporary vacuum therapy. All authors read and approved the final manuscript.

### Consent

Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

### References

1. Quinn TR, Duncan LM, Zembowicz A, Faquin WC: **Cutaneous metastases of follicular thyroid carcinoma: a report of four cases and a review of the literature.** *Am J Dermatopathol* 2005, **27**:306-312.
2. Cariou B, Charbonnel B, Heymann MF, Bridji B: **Cutaneous metastases from follicular thyroid cancer.** *Presse Med* 2000, **29**:1557-1558.
3. Koller EA, Tourtelot JB, Pak HS, Cobb MW, Moad JC, Flynn EA: **Papillary and follicular thyroid carcinoma metastatic to the skin: a case report and review of the literature.** *Thyroid* 1998, **8**:1045-50.
4. Dahl PR, Brodland DG, Goellner JR, Hay ID: **Thyroid carcinoma metastatic to the skin: a cutaneous manifestation of a widely disseminated malignancy.** *J Am Acad Dermatol* 1997, **36**:531-537.
5. Kuo MC, Wang PW, Tung SC, Chien WY, Lu YC, Lin CC: **Skin metastases from follicular thyroid carcinoma: a case report.** *Changeng Yi Xue Za Zhi* 1996, **19**:77-82.
6. Caron P, Moreau-Cabarrot A, Gorquet B, Bazex J: **Cutaneous metastasis from follicular carcinoma of the thyroid gland.** *Thyroid* 1993, **3**:235-237.

7. Durante C, Haddy N, Baudin E, Leboulleux S, Hartl D, Travagli JP, Caillou B, Ricard M, Lombroso JD, De Vathaire F, Schlumberger M: **Long-term outcome of 444 patients with distant metastases from papillary and follicular thyroid carcinoma: benefits and limits of radioiodine therapy.** *J Clin Endocrinol Metab* 2006, **91**:2892-2899.
8. Ghfir I, Ccedil Aoui M, Ben Rais N: **Follicular thyroid carcinoma: metastasis to unusual skin locations.** *Presse Med* 2005, **34**:1145-1146.
9. Erickson LA, Jin L, Nakamura N, Bridges AG, Markovic SN, Lloyd RV: **Clinicopathologic features and BRAF(V600E) mutation analysis in cutaneous metastases from well-differentiated thyroid carcinomas.** *Cancer* 2007, **109**:1965-1971.

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