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LETTER TO THE EDITOR

Formalin-fixed tissue Mohs surgery (slow Mohs) for trichoblastic carcinoma

Editor

Trichoblastic carcinoma (TC) is a rare malignant tumour with follicular differentiation.¹ Wide local excision (WLE) with a lateral margin of 10–30 mm until the deep fascia is the treatment of choice.² Mohs micrographic surgery (MMS) may be an option to improve cure rates,³ maximizing sparing of healthy tissue. The objective of this retrospective monocentric case series study was to document our experience with a cohort of patients with TC treated with slow MMS⁴ to reduce surgical margins and to evaluate the recurrence rate. The slow MMS offers the possibility of immunostaining, better-quality paraffin sections and it is less time-consuming compared to frozen MMS because the first Mohs step (margin of 10 mm) in TCs results in large Mohs layers which also delays the frozen tissue processing.

TC diagnosis was previously established on a partial or excisional biopsy. Lateral margins of the first slow MMS step were calculated considering the previous excision to obtain a total margin of 10 mm, including a 3-mm thick Mohs layer. This layer was sent to the dermatopathologist, fixed in 10% buffered formol, embedded in paraffin and included 'en face' tangentially to the surgical margin, which was stained with haematoxylin–eosin for the horizontal analysis. This procedure was repeated until histologic confirmation of clear margins. The surgical defect was closed immediately or secondarily in complex reconstructions after achieving clear margins. Demographic and clinical data, number of slow MMS steps, type of surgical reconstruction, postoperative complications and tumour recurrence were collected.

A total of 17 consecutive cases of TC treated with slow MMS were included. Demographic and clinical characteristics are summarized in Table 1. The median number of slow Mohs steps for clear margins was 1 [1–3]: one step in 13 patients (76.5%), two in one patient (5.9%) and three in two patients (11.8%). For one patient, with a high-grade TC, no clear margins were obtained despite nine steps of slow MMS and it was considered unresectable (Fig. 1). Close surveillance was recommended by a pluridisciplinary consultation. No recurrence after a 63.47-month follow-up was observed. Reconstruction techniques included direct closure ($n = 7$; 41.2%), skin graft ($n = 4$; 23.5%), local flap ($n = 2$; 11.7%), secondary intention ($n = 2$;

11.7%), composite graft ($n = 1$; 5.9%) and nasal epithesis ($n = 1$; 5.9%).

After a median follow-up of 20.13-months [range 4.43–66.06], only one case (5.9%) of a preauricular high-grade TC had a local recurrence after 17 months. A superficial parotidectomy was performed, and no new recurrence was observed after an additional follow-up of 35 months.

The superiority of slow MMS over WLE has been studied in other adnexal carcinomas but not in TC.⁵ We report the largest series of TCs treated with slow MMS, with a lower recurrence rate (5.9%) compared to those reported in the literature with WLE (10–17%).³ To the best of our knowledge, only three cases

Table 1 Main clinicopathological features of patients and trichoblastic carcinomas: n are numbers (percentage)

Total, n (%)	17 (100%)
Sex male, n (%)	12 (70.6%)
Age at disease onset (years), median [extremes]	66 [26–86]
Fitzpatrick phototype, n (%)	
I	0 (0.0%)
II	8 (47.1%)
III	8 (47.1%)
≥IV	1 (5.8%)
Other skin cancer history, n (%)	
Basal cell carcinoma	3 (17.6%)
Squamous cell carcinoma	0 (0.0%)
Basal cell carcinoma and squamous cell carcinoma	1 (5.9%)
Melanoma	3 (17.6%)
None	10 (58.8%)
Tumour location, n (%)	
Head and neck	13 (76.5%)
Trunk	3 (17.6%)
Upper extremity	0 (0%)
Lower extremity	1 (5.9%)
Tumour size long axis (mm), median [extremes]	15 [5–50]
Histological subtype, n (%)	
Low grade	8 (47.1%)
High grade	9 (52.3%)
Pathologic specimen analysis from initial partial biopsy, n (%)	12 (70.5%)
Trichoblastic carcinoma	4 (33.3%)
Trichoblastoma	3 (25.0%)
Basal cell carcinoma	4 (33.3%)
Pre-epitheliomatous keratosis	1 (8.0%)
Pathologic specimen analysis from a standard excisional biopsy, n (%)	13 (70.6%)
Complete removal, n (%)	6 (46.1%)
Lateral margins, median (mm) [extremes]	4 [0–10]

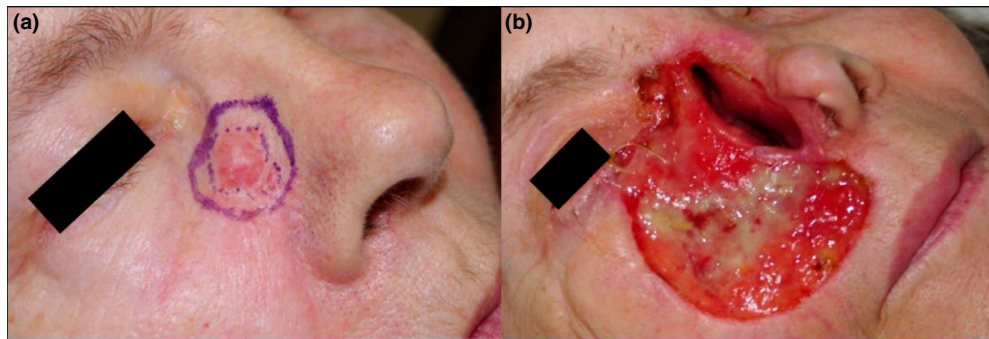


Figure 1 (a) Nasal high-grade trichoblastic carcinoma before slow Mohs procedure. (b) Unresectable tumour after nine slow Mohs steps (no clear margins).

of TC treated with frozen MMS have been reported to date^{6,7,8} without any report of recurrence after 6^{6,8} and 24⁷ months. Interestingly, almost half of our patients (41.2%) had a history of another skin cancer and most of them (94.1%), had a light phototype, reflecting an increased risk of skin cancer in fair-skinned people. The diagnosis of TC is difficult and it is often mistaken for a BCC on the partial biopsy (95%).^{3,9} In our series, the partial biopsies reported BCC (33.3%), trichoblastoma (25.0%) or pre-epitheliomatous keratosis (8.0%), motivating a standard excision before slow MMS.

In conclusion, slow MMS, a technique that allows better-quality paraffin sections and improves cost-effectiveness compared to frozen sections,¹⁰ should be the gold standard for tumour clearance and for skin-sparing surgery over WLE and is considered the first treatment of choice for TC.

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The patients in this manuscript have given written informed consent to the publication of their case details.

Conflicts of Interest





All the authors declare that they have no relevant or material financial interests that relate to the research described in this paper.

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Data availability statement

The data that support the findings of this study are openly available at [E:\TC\Data Availability trichoblastic carcinoma.xls] available in the first page of the manuscript.

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