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Research Article

Standard Surgical Excision of Basal Cell Carcinomas in the Non-H Area of the Face: A Case Series Illustrating an Alternative to Mohs Micrographic Surgery

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ABSTRACT

Introduction: Basal cell carcinoma (BCC) is the most common cutaneous malignancy among Caucasians. Most studies compare the efficacy of standard surgical excision versus Mohs micrographic surgery (MMS) for the treatment of non-melanoma skin cancers in the high-risk or H area of the face. This case series focuses on the lesser-studied non-H area and suggests the use of standard surgical excision as an alternative to MMS for these regions of the face.

Methods: A total of 10 patients with BCCs of the non-H area of the face underwent standard surgical excision with repair at the James A. Lovell Federal Health Center between October 2014 to October 2018. The average age of this group was 77.3 years and all patients were males. Nine of the 10 patients had nodular type BCCs and 1 patient had micronodular type BCC with ulceration. BCCs were located on the forehead in 8 cases and the cheek in 2 cases. Diameters of the lesions ranged from 6mm-8mm. Excision margins were 3- to 5-mm. Defects were repaired using local flaps in 9 cases and linear closure in 1 case.

Results: Histopathologic evaluation of the excision specimens revealed clear surgical margins in 9 out of 10 cases. There was one case in which positive deep margins were identified, although the patient had a BCC with a more aggressive histologic pattern. Of the 9 cases with clear surgical margins, none had clinical evidence of local recurrence at follow-up ranging from 2 to 38 months.

Discussion: BCCs in the non-H area of the face can be successfully treated using standard surgical excision with a high cure rate and low postoperative complications. MMS should be reserved for BCCs at increased risk for recurrence on the basis of factors such as location in the H area on the face and an aggressive histologic growth pattern (e.g. micronodular, morpheaform, infiltrating, metatypical).

Practice points:

- Basal cell carcinomas in the non-H area of the face can be successfully treated using standard surgical excision with a high cure rate and low postoperative complications.
- Mohs micrographic surgery should be reserved for BCCs at increased risk for recurrence on the basis of factors such as location in the H area on the face and an aggressive histologic growth pattern (e.g. micronodular, morpheaform, infiltrating, metatypical).

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Introduction

Basal cell carcinoma (BCC) is the most common cutaneous malignancy

among Caucasians, and its incidence continues to rise every year [1]. A broad range of therapeutic modalities is available in the treatment of BCCs, including surgical and non-surgical options. Several reports in the literature compare the efficacy of standard surgical excision versus Mohs

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micrographic surgery (MMS) for the treatment of non-melanoma skin cancers (NMSCs) on the face [2-5]. Most of these studies, however, focus on NMSCs located in the H area of the face which encompasses the “mask areas”- central face, eyelids including inner/outer canthi, eyebrows, nose, lips, chin, ear and periauricular skin/sulci, temple (Figure 1) [6]. MMS is most appropriate for these high-risk regions given their increased propensity for recurrence as compared to the non-H area. Also known as the M area of the face, the non-H area includes the cheeks, forehead, neck, and jawline (Figure 1) [6]. This case series focuses on the lesser-studied non-H area and suggests the use of standard surgical excision as an alternative to MMS for these regions of the face.

Methods

A total of 10 patients with BCCs of the non-H area in the facial region underwent standard surgical excision with repair at the James A. Lovell Federal Health Center between October 2014 to October 2018. All patients with facial BCCs were given the choice of having standard surgery in-house or to be referred to outside physicians for MMS. These 10 patients are consecutive patients. The average age of this group was 77.3 years and all patients were males. Nine of the 10 patients had nodular type BCCs and 1 patient had micronodular type BCC with ulceration. The BCCs were located on the forehead in 8 cases and the cheek in 2 cases. The diameters of the lesions ranged from 6mm to 8mm. Excision margins were the standard 3- to 5-mm margins for BCCs. The resulting defects were repaired using local flaps in 9 cases and with linear closure in 1 case. See (Table 1).

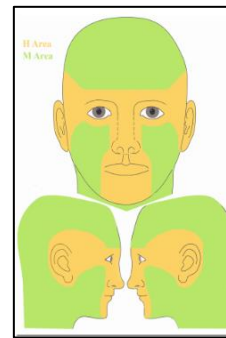


Figure 1: H and M areas of the face [6].

Results

Histopathologic evaluation of the surgical excision specimens revealed clear surgical margins in 9 out of 10 cases. There was 1 case (patient LW) in which positive deep margins were identified, although the patient had a BCC with a more aggressive histologic pattern. In this latter case, the patient declined further surgical intervention, opting for topical treatment with imiquimod and close clinical follow-up. There was no evidence of clinical recurrence noted prior to his death 20 months after the surgical procedure. The remainder of the patients followed up on a regular basis, and none had clinical evidence of local recurrence at follow-up ranging from 2 to 38 months. See (Table 1) and (Figure 2).

Table 1: Summary of cases.

Patient	Location	BCC histologic type	Type of repair	Surgical margins	Histopathologic margins	Recurrence-free duration
MU	Right forehead	Nodular	Bilateral advancement flap	3mm	Peripheral: 1mm Deep: 2mm	12 months
DD	Left forehead	Nodular	Bilateral advancement flap	5mm	Peripheral: 8mm Deep: 3mm	24 months
LW	Right forehead	Micronodular with ulceration	Bilateral advancement flap	3mm	Peripheral: 3mm Deep: +	20 months
RH	Right forehead	Nodular	Bilateral advancement flap	4mm	Peripheral: 4mm Deep: 3mm	10 months
MJ	Left cheek	Nodular	Single rotational flap	4mm	Peripheral: 4mm Deep: 3mm	4 months
TB	Right forehead	Nodular	Bilateral advancement flap	4mm	Peripheral: 3mm Deep: 2.5mm	38 months
RD	Left forehead	Nodular	O-to-Z flap	4mm	Peripheral: 2mm Deep: 2mm	5 months
LP	Mid-forehead	Nodular	Bilateral advancement flap	4mm	Peripheral: 3mm Deep: 1mm	5 months
GP	Left forehead	Nodular	Unilateral advancement flap	4mm	Peripheral: 2.5mm Deep: 1.5mm	5 months
JS	Left cheek	Nodular	Linear closure	4mm	Peripheral: 3mm Deep: 3mm	2 months



Figure 2: Representative case: nodular BCC on the left forehead excised and repaired with a bilateral advancement flap (Patient DD).

(A) Preoperative marked clinical photograph. (B) Immediate postoperative clinical photograph. (C) Postoperative clinical photograph at 17-month follow-up. (D) Postoperative clinical photograph at 24-month follow-up.

Discussion

The main goal in the management of NMSCs is to treat the cancer with adequate surgical margins while preserving maximal function and cosmesis. This is of particular importance for the facial region. The two most widely utilized therapeutic options for facial NMSCs are standard surgical excision and MMS. It is generally accepted that standard surgical excision with adequate surgical margins provides up to 95% cure rate with low-risk NMSCs, whereas high-risk BCCs located in the H area of the face as well as BCCs with an aggressive histologic type meet the indication for MMS [7]. A 2012 retrospective study evaluated the efficacy of standard surgical excision versus MMS in the non-H-zone of the face [8]. This study reviewed a total of 588 cases, of which 289 patients had non-H-zone, extremity, and trunk lesions. Overall recurrence rates of standard surgical excision and MMS at 3-year follow-up were not statistically different between the two groups (4.8% and 3% respectively). The results of their study suggested that patients with NMSCs in non-premium areas of the body may be more effectively treated with standard surgical excision rather than MMS. Other than this study, there is a relative paucity of data in the literature with regard to the clinical efficacy of standard surgical excision versus MMS in the non-H area of the face.

The intent of this case series is not to compare the efficacy of both treatment modalities, but our purpose is to support the role for standard surgical excision as an alternative to MMS in the treatment of non-histologically aggressive BCCs in the non-H area of the face. All patients in our study had BCCs that were not located in high-risk anatomic areas. Only one patient had a BCC with a more aggressive histologic growth pattern, and deep surgical margins were positive in this case. There was no evidence of clinical recurrence in any of the patients during the follow-up time period, which ranged from 2 to 38 months post-procedure. This does identify a limitation of the current study, which is

the length of the follow-up time period. It would be ideal to follow these patients for a longer duration of time given that BCCs have slow rates of growth and recurrences are frequently diagnosed beyond 5 years following definitive treatment⁹. However, histological clearance as demonstrated by formalin-fixed paraffinized sections should provide a very good indication of complete surgical removal of BCCs.

Additional factors that favor standard surgical excision over MMS include the fact that MMS is both time-consuming and labor-intensive, and the surgical technique can incur a higher cost. Another important factor to consider, particularly for our veteran patient population, is the issue of access to on-site MMS services. A 2009 study utilizing an email survey sent to 101 Veterans Health Administration Hospitals in the United States with Dermatology Services found that veteran access to MMS is not uniform across the country. In fact, on-site MMS is only available at 11 Veterans Affairs (VA) hospitals spanning nine states [10]. Thus, many veterans are unable to benefit from the convenience of on-site MMS, and they are sent to an off-site location for MMS at the majority of VA hospitals [10]. Standard surgical excision, in contrast, can be performed on-site and is less expensive as well as less time- and resource-intensive than MMS.

Based on our experiences with excision of non-H area BCCs on the face, we conclude that BCCs in these facial regions can be successfully treated using standard surgical excision with high cure rate and low postoperative complications. MMS should be reserved for BCCs at increased risk for recurrence on the basis of factors such as location in the H area on the face and an aggressive histologic growth pattern (e.g. micronodular, morpheaform, infiltrating, metatypical). Additional studies with larger sample sizes and a head-to-head comparative study design are necessary to accurately assess the treatment superiority of standard excision compared to MMS in these lesser-studied areas on the face.

Funding

None.

Conflicts of Interest

None.

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