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Histopathological variation of incompletely excised Basal Cell Carcinoma's and the variation with the grade of surgeon – Implications for revalidation

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Abstract

Introduction: Basal Cell Carcinomas are a condition commonly managed by Plastic Surgeons. National guidelines for their management where published in 2008. As part of revalidation, nine surgical subspecialities will publish individual surgeon outcome data for morbidity and mortality. Basal Cell Carcinoma incomplete excision rates have been postulated as an outcome measure for Plastic Surgeons.

Methods: We conducted a retrospective study of all Basal Cell Carcinomas within our unit from the 1st January to 31st December 2011. All patients were identified from the regional histopathology database and each histopathology report was analysed. Incomplete excisions were further analysed using a standard proforma.

Results: A total of 392 lesions were excised from 347 patients. In total there where 19 incompletely excised lesions with an overall incomplete excision rate of 4.8%. The temple area and inner canthus areas had the highest incidence of incomplete excision. Trainees encompassed 68% of all incompletely excised lesions. Histopathological analysis of the incompletely excised lesions showed that 60% of Consultant's incomplete excisions were morphoeic. Whereas for trainees, 54% were nodular, 30% infiltrative and the remainder morphoeic. Residual tumour was found in 36% of cases that were re-excised. No incompletely excised lesion that was followed up clinically, recurred after one year.

Conclusions: The incomplete excision rate was low and comparable with other published studies in the literature. Individual surgeon outcome data based on incomplete excision rates for Basal Cell Carcinoma is meaningless unless the location of the lesion and the histopathological subtype have been adjusted for.

Keywords: Basal Cell Carcinoma; Surgical outcomes; Revalidation

Introduction

Basal Cell Carcinoma (BCC) excision is a common condition dealt with by Plastic Surgeons. They represent one of the so called "bread and butter" conditions. National guidelines for their management were published in 2008, after joint consultation between the British Association of Plastic, Reconstructive and Aesthetic Surgeons (BAPRAS) and the British Association of Dermatologists (BAD).[1] These guidelines have suggested the appropriate management and treatment of BCC's, giving guidance on the appropriate margin of excision and alternative treatments to surgery. Sherry et al, 2010 in their five year review of the adequacy of BCC excision conclude that all departments should perform regular departmental clinical audit of the adequacy of BCC excision to monitor clinical effectiveness.[2] As part of revalidation, surgeons will have to provide outcome data with respect to various index procedures within their speciality. Outcome data for Cardiac Surgery has been widely available for individual surgeons since

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Table 1
Distribution of Basal Cell Carcinoma complete and incomplete excisions.

Region	No	Incomplete excision	%	Region	No	Incomplete excision	%
Face	279	18	6.5	Scalp	19	1	5.3
Nose	75	5	5.9	Neck	17		
Forehead	20	1	5				
Temple	38	5	13.1	Limbs	49		
Cheek	63	2	3.2	Arms	31		
Eyelids	13			Legs	18		
Ear	35	3	8.6				
Eyebrow	0			Trunk	28		
Lip	13			Chest	10		
Chin	5			Abdomen	4		
Inner Canthus	15	2	13.3	Back	14		
Outer Canthus	2						
				Total	392	19	4.8

2005 and will be available for nine other surgical and interventional medical specialities later in 2013.[3,4] The complete excision or incomplete excision rate for BCC's has been postulated as a marker that could be considered within Plastic Surgery for revalidation.[5]

Incomplete excision rate for BCC varies depending on the literature read, varying from as low as 3.2%, to as high as 7% within United Kingdom (UK) units.[1] However, outside of the UK, rates are reported in the literature to be as high as 13–14%.[1,6]

Re-excision of incompletely excised lesions reveals residual disease in 45–57 % of cases.[1,6,7] Any incomplete excision involving the mid face, especially if incomplete on the deep margin with aggressive pathology or reconstructed with a graft or a local flap should be re-excised. Of note not all incompletely excised lesions recur. At 2–5 years of follow up only 30–41 % cases recur.[1,6]

There was concern within our unit regarding the lack of residual disease found in the wider specimens of previously incompletely excised lesions. This may be as a result of the sampling of standard histopathological sectioning and processing, which only visualises approximately 44% of the specimen at best estimate.[1]

Methods

A retrospective study of all primary excisions of BCC's performed under the care of a Consultant Plastic Surgeon within Northern Ireland was preformed. All lesions excised from 1st January to 31st December 2011 where included. This included lesions excised in both National Health Service (NHS) hospitals and the Private Sector.

Patients were identified from a skin histopathological database provided by the regional Dermatopathologist for Northern Ireland. All patient's histopathology reports were reviewed. Those that were incompletely excised were further analysed using a standard proforma.

Only excisional biopsies were included and excisions for recurrent disease or incisional biopsies were excluded. No MOH's micrographic excisional biopsies were included in the sample, as no plastic surgeon performs this technique within out unit.

Table 2
Excision of Basal Cell Carcinoma by grade of primary surgeon.

Grade	Number of incomplete excisions	Overall percentage (%)
Consultant	6	32%
SpR/Staff grade	5	
ST 6–8	2	
ST 3–5	2	68%
FTSTA's	4	
Total	19	

Results

A total of 392 lesions were excised from 347 patients. In total there where 19 incompletely excised lesions, giving an overall incomplete excision rate of 4.8%.

Table 1 shows the distribution of lesions excised. The majority of lesions excised were on the face (71%). The temple area and inner (medial) canthus area had the highest incidence of incomplete excision.

With regards to the incompletely excised margins, 68% of lesions where present at the peripheral margin, 53% of lesions where present on the deep margin and 21% where present on both the peripheral and deep margin.

Table 2 shows the distribution of incompletely excised lesions by the grade of primary surgeon. Overall, 32% of incompletely excised lesions where performed by Consultants and 68% preformed by trainees.

Of those lesions incompletely excised by Consultants, 33% where on the nose and in the temple area, with the remainder on the ear and the scalp. For trainees, 33% where in the temple area and on the nose, 23% on the cheek, ear and inner canthus areas, with the reminder on the forehead.

Histopathological analysis of the incompletely excised lesions showed that 60% of Consultant's incomplete

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