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Comparing disciplines: Outcomes of non melanoma cutaneous malignant lesions in oral and maxillofacial surgery and dermatology

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Abstract

300 cases of non-melanoma cutaneous lesion procedures carried out by the Oral and Maxillofacial Surgery and Dermatology departments in a North West London hospital over a 6 month period between September 2011 and February 2012 were included in a retrospective case control study. The results from each speciality were compared. The mean age of the OMFS group was 75.8 years compared to 69.9 years in the dermatology group. There was no statistically significant difference in gender between the 2 groups. The OMFS group treated a higher proportion of atypical (17%) and malignant (64.9%) cases compared to the dermatology group (11.3% and 50.5% respectively). This could also account for the fact that the OMFS group carried out a higher number of full excisions compared to dermatology. Both groups had a similar number of false positives (a benign lesion initially diagnosed as malignant) and a similar proportion of false negatives (a malignant lesion initially diagnosed as benign).

Overall, the results show that both specialities had similar outcomes when managing non-melanoma cutaneous lesions. Both groups adhere to the guidelines set out by the British Association of Dermatologists and the National Institute of Clinical Excellence when managing such lesions.

Keywords: Non melanoma cutaneous malignancies; Surgical training; Maxillofacial surgery; Dermatology; Outcomes

Introduction

The majority of GP referrals in the UK for non-melanoma cutaneous lesions are managed by Dermatology.[4] However, the speciality of Oral and Maxillofacial Surgery (OMFS) treats a substantial number of these lesions presenting in the head and neck region and therefore it is important that OMFS trainees receive adequate training in dermatological clinical diagnosis, management and treatment of these in order to provide the best possible outcomes for patients. Of greatest importance is that the surgeon is able to make a sound differential between benign and malignant lesions.

Non melanoma skin cancers (NMSCs) are the most common types of skin cancer,[1,4] with the highest proportion being basal cell carcinomas[6,7] (BCCs), followed by squamous cell carcinomas (SCCs). The most significant risk factors for NMSCs are exposure to UV light[1,3] and also genetic predisposition.[8,9] The majority of these lesions occur in the head and neck region,[2–5] with studies showing that 66–85%[3,6,7] of all BCCs occur in the head and neck. It is important that primary care practitioners are able to recognise suspicious lesions and are aware of the protocols for referral to the local skin cancer multidisciplinary team (LSMDT) or specialist skin cancer multidisciplinary team (SSMDT).[2]

NMSCs accounts for a third of all cancer diagnoses in the UK, with an annual incidence estimated around 100,000 new cases.[15] These numbers however probably underestimate the true prevalence of NMSCs as there are

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differences in coding amongst UK cancer registries.[16] Whilst there have been moves to manage these cancers in a primary care setting a recent UK trial demonstrated that hospital-based treatment for non-melanoma cancer is more cost-effective than in primary care due to better diagnostic ability and surgical skill.[17] While dedicated skin cancer treatment initiatives are being trialled in the community, this means that the burden of treatment will continue to fall on dermatologists and surgical specialities such as OMFS. Adequate training is therefore imperative.

There are currently guidelines on the management of NMSCs, as set out by the British Association of Dermatologists (BAD) and the National Institute of Clinical Excellence (NICE). Treatment is dependent on many factors including tumour size, age of patient, medical status and risk factors for recurrence.[10] Complete surgical excision with an adequate margin is the recommended treatment,[1,3,5] followed by histopathological examination. The histological examination is based on the Royal College of Pathologists minimum dataset for histopathological reporting of BCCs and SCCs (including growth patterns, differentiation, margin involvement).[11] There are other surgical methods such as curettage, electrocautery, shave, cryotherapy, carbon dioxide laser and Mohs micrographic surgery, as well as non-surgical methods such as topical agents, photodynamic therapy, radiotherapy and systemic therapy.[1,7–10]

To assess adequacy of training in surgical dermatology at one North-West London centre, a retrospective study was designed to compare surgical outcomes of the management of non-melanoma cutaneous lesions between Dermatology and OMFS, using Dermatology as a control group. The aim was to assess whether surgical dermatology training including clinical diagnosis and surgical management in OMFS was adequate at this centre.

Methods

A retrospective case control study was carried out on all the patients who underwent a surgical procedure for the management of non-melanoma cutaneous lesions of the head and neck at the Dermatology and Oral and Maxillofacial departments in the North West London Hospitals NHS Trust (NWLH) over a 6 month period between September 2011 and February 2012. This cohort included benign as well as malignant lesions. The procedures carried out included incisional biopsies, curettage and shave procedures as well as conventional surgical excisions. Clinically equivocal lesion were treated as suspected malignant lesions and excision biopsies were performed immediately. Only when lesions appeared clinically benign were incisional biopsies taken first.

Malignant melanoma cases were excluded. All specimens were analysed by a single pathology department by two pathologists using their standard protocols; there was no review of slides. All the skin cancers were formalin-fixed, paraffin embedded and stained with haematoxylin and eosin. Levels and immunostains were performed where necessary. The immunostains most often used were Ber-EP4 and EMA. A wider panel of stains was used in undifferentiated tumours.

The parameters recorded were: age of patient, sex of patient, differential diagnosis, type of procedure, histopathology, and margin clearance for malignant lesions. The number of false positives (a benign condition diagnosed and managed as malignant) and false negatives (a malignant condition diagnosed and managed as benign) was also recorded. Fisher's exact test, Chi-squared test and *T*-tests were used for statistical analysis.

Results

During the six-month period, a total of 300 cases were included, with 186 dermatology procedures and 114 OMFS procedures carried out. The age of the patients in the dermatology group ranged from 14–96 years compared to 24–98 years in the OMFS group (Table 1). The mean age of the dermatology group was 69.9 years, compared to 75.8 years in the OMFS group. This difference was statistically significant, $p = 0.004$ (*T*-test). The ratio of male to female patients was the same in both groups, 1.2:1 M:F (Table 2).

For each case, the histopathology was classified as benign, atypical or malignant. The results are shown in Table 3. 11.3% of dermatology cases were atypical compared to 17% of OMFS cases, 37.6% of dermatology cases were benign compared to 20.2% of OMFS cases and 50.5% of dermatology cases were malignant compared to 64.9% of OMFS cases. There was evidence of association between pathology and treatment group, Chi-sq test p-value = 0.006. Table 4 shows the complete list of diagnoses for each speciality.

For each case, the type of procedure was recorded as excisional biopsy, incisional/punch biopsy, curettage or shave. The majority of dermatology and OMFS cases were excisional biopsies (52.2% and 84.2% respectively). The results show that a higher proportion of OMFS cases were excisions (Table 5). In contrast, a higher proportion, 39.8% of dermatology cases were incisional biopsies compared to just 15.8% of OMFS cases. There was evidence of association between the type of procedure and the treatment group, Fisher's exact test, p-value <0.001.

Table 1
Age distribution of patients.

Age group	Dermatology %	OMFS %
<30	5.9	0.9
30–40	3.2	0.9
40–50	5.9	5.3
50–60	8.1	7.9
60–70	15.6	6.1
70–80	23.7	30.7
80–90	29	35.1
>90	8.6	13.2