

## Main Articles

# Epidemiology of basal cell carcinoma and squamous cell carcinoma of the pinna

IJAZ AHMAD, F.R.C.S.(ED.), A. R. DAS GUPTA, F.R.C.S.\*

### Abstract

This is a retrospective study designed to compare the incidence of basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) in the head and neck skin area with special reference to the pinna.

The results showed 426 patients had 460 cutaneous malignancies in the head and neck area, managed by four specialities (ENT, Dermatology, General Surgery and GPs) over the period 1994–99. The lesions comprised 375 (80.47 per cent) BCC and 85 (18.47 per cent) SCC. In cases of BCC the facial areas were commonly involved (88 per cent), whilst SCC was almost equally distributed between the most (face, forehead and nose) and least exposed areas (pinna and scalp). The overall ratio of BCC to SCC remained four to one in the head and neck area. In 41 patients with 51 lesions over the pinna there were 29 (56.8 per cent) BCC and 22 (43.1 per cent) SCC hence the ratio was 1.3 to 1 for this site.

We conclude that in the case of a suspicious lesion over the pinna, the risk of SCC is comparatively much higher. With increasing awareness of early and quick diagnosis of cancer cases, it is recommended that these patients should be referred urgently to prevent the significant morbidity associated with invasive SCC.

**Key words:** Carcinoma, Basal Cell; Carcinoma, Squamous Cell; Sinus Diseases; Epidemiology

### Introduction

Basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) are the major non-melanotic skin cancers. Both are frequently seen in aged Caucasian populations and there is considerable indirect evidence linking excessive exposure of fair, white skin to sunlight to increased risk of both BCC and SCC.<sup>1</sup>

BCC is more common than SCC,<sup>2</sup> whilst SCC with its greater metastatic potential is associated with high morbidity. A ratio of 4:1 BCC to SCC is commonly reported in non-immunosuppressed white-skinned individuals.<sup>3</sup>

Data on the incidence rates of non-melanotic skin cancers are scanty especially regarding specific anatomical sites. The study was designed to compare the incidence of BCC and SCC in the head and neck skin area with special reference to the external ear (pinna).

### Patients and methods

A pathology database was used to identify all the patients who had biopsies performed for cutaneous malignancies in this hospital from 1994 to 1999. The

search was based on histological coding as BCC and SCC under the heading of skin tumours. This was further narrowed down to the anatomical sites of head and neck area. The medical records of all patients having lesions over the pinna only, were studied retrospectively. The following data were collected for analysis; age, sex, race, site and number of lesions, histology, local recurrence, speciality (ENT, Dermatology, General Surgery or General Practitioner) and any distant skin malignancy.

TABLE I  
SCC AND BCC OF HEAD AND NECK SITES IN 426 PATIENTS

	Number of patients	Number of lesions	BCC number (%)	SCC number (%)
Face	181	186	159 (85.48)	27 (14.92)
Forehead	108	118	106 (89.83)	12 (10.17)
Nose	69	74	66 (89.19)	8 (10.81)
Pinna	41	51	29 (56.86)	22 (43.12)
Scalp	24	27	12 (44.44)	15 (55.55)
Eyelid	3	4	3 (75)	1 (25)
Total	426	460	375 (80.47)	85 (18.47)

From the Departments of Otolaryngology, Manor Hospital, Walsall and Birmingham University Hospitals NHS Trust\*, UK.  
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TABLE II  
SCC AND BCC OF PINNA IN 41 PATIENTS

	BCC number (%)	SCC number (%)
Patients	23 (56.0)	18 (43.9)
Lesions	29 (56.8)	22 (43.1)
Male	16 (69.5)	18 (100)
Female	7 (30.5)	0
Mean age (years)	72	71
Local Recurrence	4 (17.3)	4 (22.2)
<i>Treatment</i>		
Surgical excision	27 (93.1)	18 (81.8)
Curette	1 (3.4)	1 (4.5)
Liquid nitrogen	0	1 (4.5)
Radiotherapy	1 (3.4)	2 (9.0)
<i>Departments</i>		
ENT	10 (43.4)	8 (44.4)
Dermatology	8 (34.7)	8 (44.4)
General surgery	2 (8.6)	1 (5.5)
General practitioners	3 (13.0)	1 (5.5)
Other head and neck	SCC = 2	SCC = 1
Lesions	BCC = 6	BCC = 2
Distant skin lesions	SCC leg = 1	SCC leg = 1

The pathology record showed 460 specimens in 426 patients of either BCC or SCC in the head and neck area, during the five-year period.

## Results

Table I shows the details of 426 patients with 460 lesions at various anatomical sites of the head and neck area. It is obvious that some of the patients had more than one lesion. Overall BCC comprised about 80 per cent compared to about 18 per cent of SCC.

Table II shows data of 41 patients who had 51 lesions over the pinna. All patients were of white ethnic origin.

## Discussion

In a retrospective analysis caution must be exercised in interpretation of the data, however, several points are worth presenting in this review. Firstly all patients presented in their 70s and males outnumbered the females. Secondly the majority underwent surgical treatment shared between the four specialities (ENT, Dermatology, General Surgery and General Practitioners) and about 44 per cent dealt in the ENT department. Thirdly BCC lesions were mostly sited (about 88 per cent) on face, forehead and nose i.e. most exposed areas, results similar to other studies,<sup>4</sup> whilst SCC was almost equally distributed between the most (face, forehead and nose) and least exposed areas (scalp and pinna). About one-third of these patients developed BCC, SCC or both, at other skin areas.

Lastly in the head and neck area the ratio of BCC to SCC is 4:1, which is consistent with the evidence from other studies.<sup>5,6</sup> On the other hand for similar lesions over the pinna the ratio is 1.3:1. This study supports our clinical perception that in case of a suspicious lesion over the pinna, the risk of SCC is comparatively much higher.

Currently a system for early and quick diagnosis of cancer is being set up. The Referral Guidelines for Suspected Cancer – Consultation Document,<sup>7</sup> 1999, states that patients with suspected cancer should see a specialist within two weeks of their GP requesting an appointment. To achieve this objective clear referral criteria and referral pathways for these patients are essential. For BCC the present guidelines are described as: 'The slow growth and low metastatic potential for these lesions mean that they do not need to be seen within two weeks, nevertheless these patients should be seen by a specialist within three months'.

On the basis of our results we think that any suspicious lesion over the pinna should be referred urgently. This will help in early diagnosis and also prevent the significant morbidity associated with cases of SCC. We recommend that this should be included in the guidelines for general practitioners.

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Address for correspondence:  
Mr I. Ahmad, F.R.C.S.(Ed.),  
Specialist Registrar  
Department of Otolaryngology,  
Walsall Manor Hospital,  
Moat Road,  
Walsall WS2 9PS, UK.  
E-mail: lahmada6188@aol.com

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