



**Invasive Squamous Cell Carcinoma of the Scalp: A 10-year review  
and comparison to national guidelines**

**Yasser Al Omran**

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me such a wonderful prize"*

## **The institution**

I undertook part of my medical elective at St. Andrew's Centre of Plastic surgery and Burns. With over 20 consultant surgeons employed, St, Andrew's is a world-renowned, large, specialist Plastic Surgery and Burns centre. It provides services for a population of 3.2 million for Plastic Surgery and 9.8 million for Burns, and has strong research ties with the University of Cambridge and Anglin Ruskin University. I had previously been there early in my final year doing a student selected component in plastic surgery and had a wonderful time, so with such a fantastic centre of excellence in proximity and when the opportunity presented itself where I was able to do a clinical research project in skin cancer, I didn't think twice before seizing the opportunity.

## **The Project**

Squamous cell carcinoma (SCC) one of the most common skin malignancies accounting for 20% of all cutaneous malignancies. It is not uncommon for SCC to occur in the scalp, representing approximately 2% of all cases. However, SSCs of the scalp microscopically extend a significant distance beyond what is clinically apparent. This may be because once the tumour penetrates the periosteum, they can spread laterally for great distances<sup>1</sup>. It is for this reason that for all suspected scalp SCCs, clinical guidelines recommend that when the periosteum is involved clinically, either deeper excision of the periosteum with or without outer table of skull is recommended in combination with adjuvant radiotherapy, or the patient should have adjuvant radiotherapy alone<sup>2</sup>. To the best of our knowledge there has not been any published data detailing the characteristics of these aggressive SCCs that penetrate into the periosteum. My elective project involved evaluating the management and outcomes of invasive squamous cell carcinoma (SCC) over a 10-year period at St.

Andrew's, and comparing results to guidelines published by a number of organizations including The British association of Dermatologist<sup>3</sup>, The Scottish Intercollegiate Network<sup>4</sup> and European consensus-based interdisciplinary guidelines<sup>5</sup>.

I conducted a retrospective review of all patients presenting to a large tertiary centre for skin cancer were reviewed over a 10 year period (2005-2015). Patients were identified through histological reports coded as "SCALP SCC" or "SSC SCALP". We reviewed the association between different parameters of the histology report to determine the typical characteristics of the more aggressive tumours. More than 1000 patients had SCC of the scalp during this period of time. We identified the patients who had an invasion of the SCC to the periosteum and reviewed their presentation, clinical management, patient outcomes such as wound healing, re-admission rates and survival. This included local invasion of calvarium and recurrence at the primary site. These patients were older than the rest of the cohort, and had presented later before active management was able to be commenced. We tried to elucidate the risk factors or histologic identifiers to explain this phenomenon, which has not been previously described in the head and neck literature. Although there was no correlation between the degree of differentiation and the aggressiveness of the cancer. We identified a series of patients with squamous cell carcinoma of the scalp that behaved in an unusually aggressive pattern for its level of differentiation, and we also identified how these patients are managed. To our knowledge, this is the largest case series of invasive squamous cell carcinoma that invades up to the periosteum and we are applying the finishing touches before submitting a manuscript for publication in a scientific surgical journal very soon.

## **My experience**

I had a wonderful time at St. Andrews's Centre for Plastic Surgery and Burns. I have developed relationships with the staff there that will hopefully last a very long time. I very much hope that I can work there at some point down the line as the institution is fabulous. This experience has taught me a lot about clinical research and how to troubleshoot and best manage my time. I am deeply indebted to the British Association of Dermatologists for awarding me such a wonderful prize and for allowing me to have this experience.