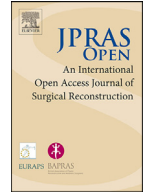




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Short Communication

## Audit of the diagnosis and treatment of seborrhoeic keratosis and compliance with current guidelines <sup>☆</sup>

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### Introduction

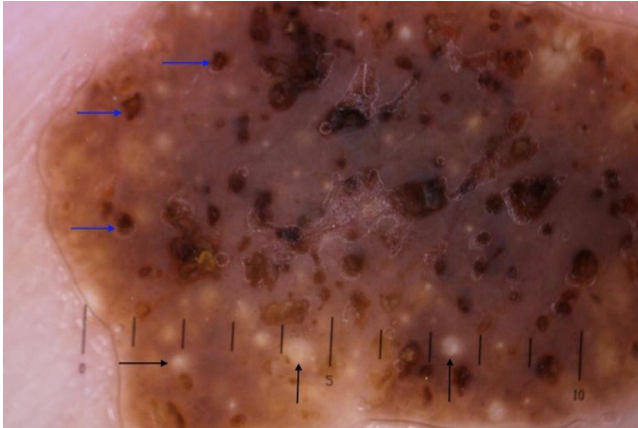
Seborrhoeic keratosis (SK) is a common benign skin condition associated with increasing age, sun exposure and certain genetic mutations.<sup>1</sup>

The typical appearance of SK is a well circumscribed lesion with a greasy, keratotic surface that seems “stuck on” to the skin. However, the morphology can vary and some SKs may be difficult to differentiate from malignant melanoma if the SK is deeply pigmented.

<sup>☆</sup> This work was presented in the Plastic Surgery Morbidity and Mortality meeting at St George's Hospital July 2019.

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**Figure 1.** Typical appearance of SK with milia-like cysts (black arrows) and comedo-like openings (blue arrows). (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

Source: Source: <http://www.pcds.org.uk/clinical-guidance/seborrheic-keratosis-syn.-seborrheic-wart-basal-cell-papilloma>.

NICE guidance states in the quality standards for skin cancer that any patient undergoing a specialist assessment for pigmented lesions must be examined with a dermatoscope.<sup>2</sup> Dermatoscopy is more sensitive and specific than clinical examination alone and therefore reduces the risk of missing malignant diagnoses and unnecessary biopsies for benign lesions. Under dermatoscopy, features of SKs can include milia like cysts, comedo like openings, gyrated surface and hairpin vessels (Figure 1).<sup>3</sup>

According to BMJ Best Practice,<sup>4</sup> SKs should be diagnosed clinically but, biopsy can be considered if the lesion is suspicious (in the presence of bleeding or inflammation). Since SKs are benign, treatment is not necessary but can be removed if it catches on clothing or becomes irritated. SKs should be removed with curettage or cautery if raised or cryotherapy if flat. Excision biopsies should be avoided in SKs as this is a more invasive procedure and causes a worse aesthetic outcome.

Taking this into account, an audit was conducted assessing the compliance of the plastic surgery department at St George's Hospital, London to these guidelines. The aim was to investigate whether patients with biopsy proven SKs were being examined with a dermatoscope in clinic, the method of biopsy and the rationale for biopsy.

## Methods

The pathology department at St George's Hospital searched their database for patients referred by plastic surgery with biopsy proven SKs between the dates June 2018 and May 2019. Patient details were provided by the pathology department and further information was gathered by searching through patient's online records. The following details were recorded; the surgeon who saw the patient in clinic, differential diagnosis, use of dermatoscope, method of biopsy and dermatology history.

## Results

A total of 64 patients were identified by the pathology department who had biopsy proven SKs referred by the plastic surgery department. 14 of these patients did not have clinic letters available but pathology forms were available for all patients. The mean age of patients were 68.5 years and the ages ranged from 3 years old to 92 years old. 3 patients were under 18 (3, 6 and 11).

26 patients were referred for biopsy by consultants and 22 were referred by specialist registrars (Table 1). Dermatoscopy was coded for 28 out of 55 patients with available notes and mentioned in only 8 out of 53 clinic letters. Most SKs were not biopsied according to BMJ Best Practice; 37 SKs underwent excision, 9 underwent curettage and cautery, 8 underwent shave excision and 8 underwent punch biopsy.

**Table 1**

Comparing management of biopsy proven SKs and clinically diagnosed SKs between consultants and specialist registrars.

	Total	Consultant	Specialist Registrar
<b>Biopsy Proven SKs</b>			
Referrals for biopsy	64	26	22
Dermatoscopy coded	28	8	17
<b>Method of biopsy</b>			
Excision	37	17	16
Curettage	9	5	2
Shave	8	3	3
Punch	8	2	4
<b>Clinically Diagnosed SK</b>			
Preoperative diagnosis	21	11	7
<b>Method of biopsy</b>			
Excision	9	5	4
Shaved	5	2	2
Curetted	7	4	1

There were a range of differential diagnoses mentioned in pathology forms and clinical letters. SK was the most common differential diagnosis with 21 patients correctly being identified. The second most common was a non-specific description of pigmented lesion or mole, which was included in 12 pathology forms. Suspicious mole, melanoma, BCC and SCC were other examples of differential diagnoses.

It should be noted that many of these patients had significant skin past medical history, 33 patients were documented to have had a melanoma, 8 had a BCC and 6 had an SCC. As a result, the level of clinical suspicion for these patients may increase and lead to the decision of taking a biopsy of an indeterminate lesion. Particularly since many of these patients were seen in specialist melanoma outpatient clinics involving full skin examination.

## Discussion

This audit showed that dermatoscopy was not coded in 49% of these patients and may be a contributing factor as to why patients underwent unnecessary biopsies. However, 42.9% of patients who received the correct diagnosis of SK, still underwent an unnecessary excision biopsy. There were similar numbers of patients with SK being incorrectly managed between consultants and specialist registrars.

Similar results were found in a previous study, only 49% of 527 SKs biopsied were correctly diagnosed before the procedure and an appropriate procedure was performed in 50% of these patients.<sup>5</sup> The authors considered curettage, shave biopsy, and punch biopsy appropriate while excision was inappropriate. In contrast with this audit, the study found that patients diagnosed with SK clinically were over 8 times more likely to have an appropriate biopsy.

Furthermore, this audit highlights the importance of dermatoscopy during the assessment of pigmented lesions to aid clinicians in providing the correct diagnosis and appropriate treatment. It also shows the need to raise awareness for the correct management of SKs in order to reduce both cost to the health service and morbidity for the patient.

## Declaration of Competing Interest

None declared.

## Funding

None.

## Ethical approval

Not required.

Audit was registered with St George's University Hospitals NHS Foundation Trust and data collection to complete audit loop is currently ongoing.

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