

Seborrheic Keratosis: Report of a Rare Presentation and Reminder of the Current Knowledge of the Problem

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ABSTRACT: A 75-year-old man presented with an abdominal enlarging painless tumor of the skin evolving over the last 30 years. His past medical history was unremarkable. Physical examination revealed a brownish pedunculated cutaneous mass which had an irregular keratotic warty surface with no discharge or ulceration. The mass was clinically presumed to be a melanocytic tumor, or a verrucous carcinoma. A monoblock excision of the mass was performed with a good outcome. The specimen was then sent to our pathology department to rule out malignancy. Macroscopic examination revealed a brownish tumor of 7.5 × 7 × 1.5 cm which had fissures and cauliflower-like appearance. Final histological report concluded to a giant seborrheic keratosis.

KEYWORDS: Seborrheic keratosis

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Introduction

Seborrheic keratosis (SK) is a common benign epidermal tumor that typically affects elderly people.¹ In dermatological routine practice, the diagnosis is easily established when SK presents with typical clinical features such as brown plaque with a warty surface.² However, atypical presentations may occur resulting in diagnostic difficulties, especially among general surgeons and primary care physicians. Large SK is quite rare and has not been sufficiently documented in the literature so far.^{3–6}

Herein, we report a case of a 75-year-old man with a giant abdominal SK.

Case Report

A 75-year-old man presented to the general surgery department with an enlarging painless tumor of the skin evolving over the last 30 years in the upper right quadrant of his abdomen. The lesion started as a small pigmented papule which gradually increased in size to become a large mass. There were no other associated symptoms such as pain, itching, or bleeding. The patient was in a good health and his past medical history was unremarkable. There was no family history of skin disease. Physical examination revealed a brownish pedunculated cutaneous mass which had an irregular keratotic warty surface with no discharge or ulceration. The mass was attached to a short stalk of 4 mm. There was no evidence of inflammatory changes of the skin around the lesion. The mass was clinically presumed to be a melanocytic tumor, a verruca vulgaris, or a verrucous carcinoma.

Subsequently, a monoblock excision of the mass was performed under local anesthesia. The procedure was uneventful.

The specimen was then sent to our pathology department for histopathological examination and to rule out malignancy.

Macroscopic examination revealed a brownish tumor of 7.5 × 7 × 1.5 cm which had fissures and cauliflower-like appearance (Figure 1).

The specimen was formalin-fixed, paraffin-embedded, and then entirely analyzed.

Histologically, there was proliferation of basaloid keratinocytes with no dysplasia. The epidermis showed extensive acanthosis with papillomatosis, hyperkeratosis, and pseudohorn cysts formation. Microscopic findings were consistent with seborrheic keratosis (Figure 2).

At 3 months of follow-up, the patient was doing well. The surgical site was well healed and no recurrence was observed.



Figure 1. Grossly, the mass was brownish, measured 7.5 × 7 × 1.5 cm and had warty surface with cauliflower-like appearance.



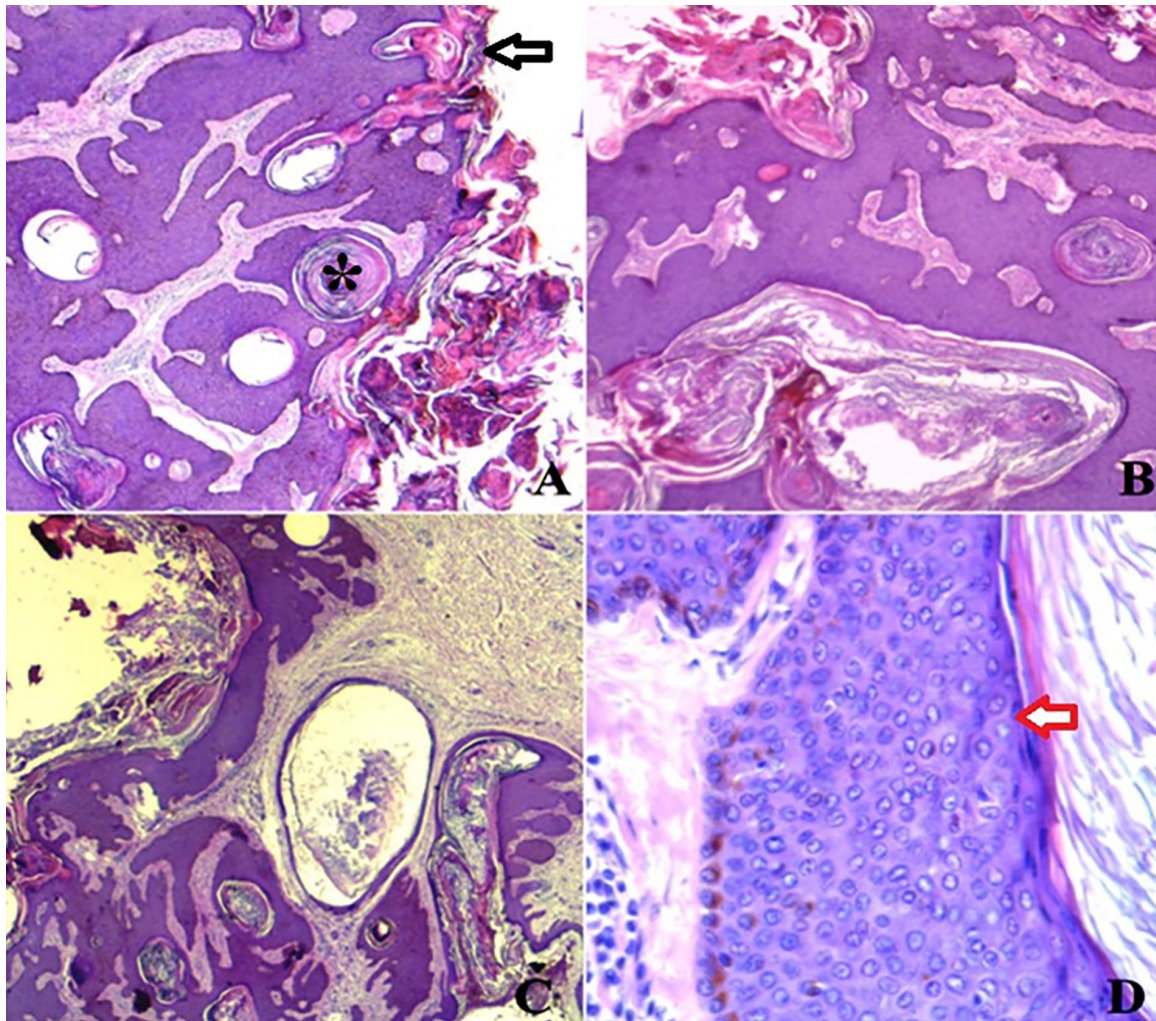


Figure 2. (A, B and C) Histopathological examination of the lesion revealed acanthosis of the epidermis with hyperkeratosis (black arrow) and horn pseudo-cysts (asterisk) (H&E stain $\times 40$). D) Microscopic examination showed basaloid cell proliferation (red arrow) with hyperpigmentation of the basal layer (H&E stain $\times 200$).

Discussion

Seborrheic keratosis (SK) is the most common skin lesions seen by dermatologists in routine practice.^{7,8} It is usually encountered in the elderly population.¹ Men and women are equally affected.^{7,8}

Usual clinical features, unusual clinical features, and clinical misdiagnosis

SK can occur anywhere on the body with predilection of the back, chest, head, and neck. Palms, soles, and the mucus membranes are generally not affected.^{7,8}

SK is usually asymptomatic.⁸ However, trauma or irritation may result in itching and pain.⁷ Lesions are typically sharply demarcated and presented as stuck on verrucous plaques with variable thickness.^{7,9} Their color may be yellowish, gray-brown, or black.⁷ Clinical variants of SK include stucco keratosis, dermatosis papulosis nigra, lichen planus-like SK, inflammatory SK, large cell acanthoma, flat SK, inverted follicular keratosis,

and Leser-Trelat syndrome.^{7,8,10} The latter is a paraneoplastic syndrome characterized by a sudden onset of numerous SK and it is associated with an internal organ malignancy.⁷ The size of SK ranges from a few to many millimeters with an average diameter of 0.5 to 1 cm.^{7,8,11}

In our case, SK reached 7.5 cm in greatest dimension which warranted histopathological examination.

Large SK is in fact an unusual presentation and it is rarely documented in the literature (Table 1).^{3-6,12-25} Giant SK have been notably described in genital areas.^{4-6,17-20,22-24} The size of reported giant SK varies from 4.5 to 25 cm in greatest diameter with an average size of 9.8 cm.^{3-6,12-21,23,25} These lesions develop over a long period ranging from 1 to 40 years with an average of 14 years.^{3-6,12-15,17-25} Giant SK may be complicated with ulcerations and unpleasant smell.^{5,12,13}

In addition to giant size, unusual clinical features of SK may include serpiginous presentation, target-like pattern, and unusual location such as the external ear canal, and subungual location.²⁶⁻²⁹

Table 1. Clinical and pathological features of reported cases of giant seborrheic keratosis (1964-2020) (PubMed search).

AUTHOR, REFERENCE	AGE/ GENDER	SIZE (CM)	SITE	TIME TO DIAGNOSIS (Y)	CLINICAL ASPECTS	DERMOSCOPY FINDINGS	MANAGEMENT	MICROSCOPIC DETAILS OF SK
Wayne ²	40/M	2-6	Trunk, buttocks, thighs, and scrotum	17	46 dark gray-to-black, raised, papillary lesions	NA	Surgical excision	Acanthosis, hyperkeratosis, and keratin nests
Baer ³	75/F	5.5 × 3.5	Inguinal	40	Firm, yellow-brown pendulous mass with rough, keratotic, corrugated, and irregular surface	NA	Surgical removal	Epidermal hyperplasia with horn pseudocysts
Pepper ¹³	71/M	8 × 6	Hip	10	Brown black hyperkeratotic plaque	NA	- Partial surgical excision - Dermabrasion	Hyperkeratosis with plugging and irregular basaloid acanthosis.
Mochizuki et al ¹⁴	76/M	5 × 5 × 2.6	Back	30	Elastic, soft, mushroom-shaped tumor with telangiectatic, boggy characteristics	NA	- Biopsy - Surgical excision	Irritated SK
Tsuji and Morita ¹⁵	44/M	8 × 6	Frontal scalp	10	Elevated, brownish and verrucous lesion	NA	Topical fluorouracil	Hyperkeratosis, papillomatosis, and acanthosis
Okazaki and Ueda ¹⁶	63/M	9 × 7.5 × 3	Scalp	NA	Cauliflower like lesion	NA	- Biopsy - Surgical excision with skin graft	NA
Livaoglu et al ¹⁵	42/M	20 × 25	Pubic	15	Gray-brown tumor with wart-like appearance and an unpleasant smell	NA	Excision + scrotal flaps	Papillomatosis, acanthosis, proliferation of basaloid cells, horn cysts, and pseudo-horn cysts
Thakur et al ¹⁷	50/M	2 (average size)	Penis and groin region	20	Multiple polypoidal lesions.	NA	Shave excision	NA
Stefanaki et al ¹⁸	61/M	NA	Perianal	10	Large annular plaque with a hyperkeratotic, hyperpigmented, irregular, and serpiginous border	NA	- Biopsy - Liquid nitrogen cryotherapy	Hyperkeratosis, acanthosis, papillomatosis, and horn pseudocyst formation
El Amrani et al ¹⁹	85/M	7 × 10 (greatest diameter)	Pubic	10	Small pigmented lesions + other pigmented, confluent, and hyperkeratotic bordering plaques with a circinate contour.	NA	- Biopsy - Electrocoagulation curettage	Acanthosis, papillomatosis, hyperkeratosis, and pseudo-horn cysts

(Continued)

Table 1. (Continued)

AUTHOR, REFERENCE	AGE/ GENDER	SIZE (CM)	SITE	TIME TO DIAGNOSIS (Y)	CLINICAL ASPECTS	DERMOSCOPY FINDINGS	MANAGEMENT	MICROSCOPIC DETAILS OF SK
Nath et al ²⁰	50/F	15 × 10	Vulva	2	Large, pigmented, polypoidal mass with reddish and whitish verrucous areas	Fissures, ridges, cerebriform appearance, and comedo-like openings	Biopsy	Hyperkeratosis, acanthosis, and multiple horn cysts
Part et al ⁶	33/M	8 × 10	Penis	8	Brown, well demarcated lesion with papillomatous and verrucous surface.	NA	Shave excision	Lesions appeared as basal cell papilloma with keratin pearls and accumulation of melanin
Alapatt et al ²¹	70/F	7 × 6	Breast	15	Large, hyperpigmented, hard, and non tender verrucous plaque	- Cerebriform appearance, fissures, ridges, and comedo-like openings - Parched paddy field appearance	- Biopsy - Carbon dioxide laser ablation	Hyperkeratosis, acanthosis, basaloid cells in cords, horn cysts, and pseudo-horn cysts.
Bandyopadhyay et al ²²	59/M	NA	Perigenital	10	Multiple, brownish/black lesions with lobulated, irregular, and greasy surface ± erosions	NA	- Biopsy - Surgery	Hyperkeratosis, papillomatosis, acanthosis with proliferation of basaloid cells, horn cysts
Naciri and Ismaili ²³	80/M	2-10	Genital	20	Hyperpigmented, humped, well-defined lesions, with warty surface	Cerebriform convolutions	Surgical resection	NA
Seethalakshmi et al ²⁴	62/M	NA	Penis and groin region	1	Multiple pigmented polypoidal masses of varying sizes	NA	Surgical excision	Hyperkeratosis, acanthosis, papillomatosis, horn cysts, pseudo-horn cysts, and hyperpigmentation of the epidermis
Salah et al ⁴	66/M	15 × 10	Perianal	10	Large, pigmented verrucous mass	Cerebriform appearance, fissures, ridges, and comedo-like openings	- Biopsy - Surgical excision + skin graft	Hyperkeratosis, focal parakeratosis, extensive acanthosis, and papillomatosis.
Zhang et al ²⁵	61, F	4 × 4.5	Head	7	Brown patch with a tufted papillary bulge in the center	Irregular brown and bluish pigment and "fat finger" structure.	- Partial removal - Aminolevulinic photodynamic therapy	Acanthosis, pseudo-horn cysts, and proliferation of basaloid cells.

Abbreviations: F, female; M, male; NA, not available; SK, seborrheic keratosis.

Clinical misdiagnoses of SK include melanoma, invasive squamous cell carcinoma, and basal cell carcinoma.² In addition, Mochizuki et al reported the case of a giant irritated SK of the back simulating verrucous carcinoma.¹⁴ Genital giant SK may mimic condyloma acuminata, acrochordons, Bowenoid papulosis, and extramammary Paget's disease.^{4,6,17-20,23,24}

Usual dermoscopic features, unusual dermoscopic features, and dermoscopic misdiagnosis

The main limitation of our work is that dermoscopy was not performed. Truth to say, dermoscopy is the preferred non-invasive diagnostic method especially in distinguishing pigmented SK from other pigmented tumors.¹

Typical dermoscopic features of SK include fissures and ridges imparting a cerberiform appearance, hairpin vessels with white halo, milia-like cysts, and comedo-like openings.² Dermoscopy of giant lesions appears to show typical features of SK.^{4,20,23} Moreover, Alapatt et al,²¹ described a case of a giant SK of 7 × 6 cm with dermoscopy showing a "parched paddy field appearance." Zhang et al²⁵ reported the case of giant SK of the head with dermoscopy showing irregular brown and bluish pigment and "fat finger" structure.

Furthermore, in a review of 161 excised difficult-to-diagnose SK, 10 repetitive global dermoscopic patterns were identified: multicomponent (32; 19.9%), reticular (24; 14.9%), bowenoid (21; 13.0%), hairpin (19; 11.8%), keratoacanthoma-like (16; 9.9%), blue-nevus like (15; 9.3%), lichenoid (6; 3.7%), hyperkeratotic (6; 3.7%), clonal (5; 3.1%), and spitzoid (5; 3.1%). In addition, 12 SK (7.5%) were not included in any of such patterns (not classified).³⁰

These unusual dermoscopic patterns reflect the variability of a common cutaneous benign disease.

Dermoscopic misdiagnosis of SK include SCC, melanoma, and BCC.³¹⁻³³

Dermoscopic features of SCC include dotted vessels, branched linear vessels, white structureless areas, and white circles surrounding follicles.³¹ Dermoscopic distinctive features of melanoma include the presence of blue-white veil, pseudopods, streaks, and pigment network.³² In addition, when a starburst pattern is dermoscopically present, a histopathological examination is indicated to rule out a spitzoid melanoma.² BCC is characterized by the presence of blue-gray globules, maple leaf-like areas, spoke-wheel areas, and arborizing telangiectasias.³³

Usual histological features, unusual histological features, and histological differential diagnoses

Histologically, SK is characterized by the presence of two keratinocytic components: basaloid cells and monomorphous squamous epithelial cells. In addition, there is epidermal acanthosis, papillomatosis, hyperkeratosis, and horn pseudocysts, which are the microscopic traduction of dermoscopic comedo-like openings.^{2,7}

Histological variants of SK include acanthotic, hyperkeratotic (verrucous), adenoid, clonal, irritated, and melanoacanthoma.⁷

Acanthotic SK is the most common variant. This subtype involves pronounced acanthosis with moderate papillomatosis and hyperkeratosis. Horn pseudocysts are numerous. The hyperkeratotic subtype is characterized by marked papillomatosis with saw-tooth appearance, hyperkeratosis, and moderate acanthosis. Adenoid SK is typified by reticular proliferation of basaloid cells arising from the epidermis. Hyperpigmentation is not uncommon. In the clonal subtype, there is proliferation of sharply demarcated intraepithelial clusters of basaloid cells, which is known as the Borst-Jadassohn phenomenon. Irritated SK has an inflammatory cell infiltrate in the dermis and it is characterized by numerous squamous eddies. Therefore, this variant has to be distinguished from SCC. Melanoacanthoma refers to a very heavily pigmented acanthotic SK.^{1,7,34,35}

Unusual histological features of SK include sebaceous differentiation, basal clear cells, in addition to adamantinoid pattern and pseudorosette formation.³⁵⁻³⁷

In addition to SCC, histological differential diagnoses include epidermal nevi, confluent and reticulated papillomatosis, acanthosis nigricans, and acrokeratosis verruciformis.^{1,2,7}

The pathogenesis of SK

Despite being so common, the etiology of SK remains not clearly elucidated.⁸ The pathogenesis is suggested to be related to skin aging and chronic ultraviolet (UV) exposure.^{1,7} Moreover, genetic predisposition and Human Papilloma Virus infection may represent a risk factor for SK.⁸ Besides, it has been postulated that SK may be linked to the accumulation of amyloid-associated protein.¹⁰

Clonality analyses demonstrated that SK is monoclonal representing therefore a true neoplasm rather than a simple epidermal hyperplasia.⁷ Cytogenetic alterations include FGFR3, PIK3CA, TERT promoter, and DPH3 promoter mutations.¹

SK and malignancy

SK is a benign condition. However, reports of associated Bowen's disease, invasive squamous cell carcinoma, basal cell carcinoma, and melanoma arising within SK have been described.^{9,11,38-40} Nevertheless, whether these lesions represent collision tumors or can develop directly from SK is still debatable.^{7,9,11,40}

In our case, the specimen was entirely analyzed and there was no histological evidence for associated malignancy.

Treatment

Due to the benign nature of SK, treatment is usually not required.⁴¹ However, patients with SK are often motivated to get treated for physical irritation or cosmetic reasons.^{1,7}

Therapeutic modalities of SK include shave surgery, cryosurgery, laser-assisted removal, and topical therapies.^{1,41} Complete surgical excision remains the treatment of choice of giant SK providing both diagnostic confirmation and

therapeutic benefit.³⁻⁵ As per reported cases, in addition to surgical treatment, therapeutic approaches of giant SK may encompass topical fluorouracil, dermabrasion, liquid nitrogen cryotherapy, electrocoagulation curettage, carbon dioxide laser ablation, and aminolevulinic photodynamic therapy.^{4,5,13,15,16,18,19,25}

Conclusion

Seborrheic keratosis (SK) is a benign common skin lesion. Accurate diagnosis is usually straightforward based on quite distinctive clinical features. However, clinical appearance may be equivocal resulting in diagnostic difficulties. Giant lesions represent a rare occurrence. In this regard, histopathological examination is essential to confirm the diagnosis, rule out malignancy, and guide appropriate management. Surgical excision of giant (SK) remains the standard of treatment providing both diagnostic confirmation and therapeutic benefit.

Abbreviations

SK: seborrheic keratosis

SCC: squamous cell carcinoma

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Author Contributions

Drafting of the manuscript: Bahaeddine Lahbacha and Abir Chaabane. Acquisition, analysis, and interpretation of data: Bahaeddine Lahbacha, Salwa Nechi, Amina Bani, and Majdi Kchaou. Critical revision and literature review for important intellectual content: Fadhel Chtourou, Mohamed Karim Mfarrej, Amel Douggaz, and Emna Chelbi. Study conception and design: Salwa Nechi, Abir Chaabane, Fadhel Chtourou, Mohamed Karim Mfarrej, Amel Douggaz, and Emna Chelbi. All authors approved the final version.

Ethical Approval

Not applicable.

Consent

Written informed consent has been obtained from the patient to publish this paper.

Data Availability Statement

All data generated or analyzed during this case are included in this article. Further enquiries can be directed to the corresponding author.

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