*Original article*

# Multiple keratoacanthoma Involving Lower Lip: Case Report and literature review

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**ABSTRACT:**

Keratoacanthoma (KA) is a benign epithelial proliferative lesion which frequently occurs on the sun exposed areas of the skin. KA originates within the pilosebaceous apparatus of the skin, may be solitary or multiple and character by spontaneous resolution. Keratoacanthoma is believed to have a good prognosis despite its clinical and histological resemblance to well differentiated squamous cell carcinoma (SCC). The aim of this paper is to briefly review and discuss the literature about multiple keratoacanthoma involving the lower lip in a 67-year-old male.

**Key Words:** *Keratoacanthoma, multiple, lower lip, squamous cell carcinoma.*

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## INTRODUCTION:

Keratoacanthomas (KA) are common cutaneous skin tumors originating from the hair follicles.[1] The lesions present typically as crateriform tumors and are more frequent in men.[2] Unlike squamous cell carcinoma (SCC), KA is a benign and regress spontaneously.[3]

The lesion occurs frequently on the sun exposed areas of face, neck, forearms that is predominantly found more in elder male individuals.[4,5] Etiology of KA still remains obscure; however actinic rays, HPV, trauma, genetic factors and immunocompromised status have been implicated.[2,4,6]

Clinically, KA may appear as a sporadic solitary lesion or as multiple lesions. Peak incidence occurs between the ages of 50 and 69 years, although the tumors have been reported in patients of all ages. Both sexes are about equally affected, although there is a slight predilection for males. Keratoacanthomas mainly develop on the face (lower lip, cheek, nose, and eyelid), neck, and hands. It appears as firm, roundish, skin-colored or reddish papules that rapidly progress to dome-shaped nodules with a smooth shiny surface and a central crateriform ulceration or keratin plug that may project like a horn.

The clinical course of KA is an unusual one as it is a self-limiting lesion and undergoes spontaneous regression. It appears as an exophytic mass that exhibits rapid Growth over a few weeks to months. It develops in three phases: proliferative, mature, and involution. Rapid growth occurs in the first stage.[7,8] The second stage is characterized by stabilization and a regression of the tumor is observed in the third stage, leaving a scar with an area of depression.[8]

Histopathological features reveal a close resemblance to well-differentiated squamous cell carcinoma. Complete excision with a safety margin is the ideal treatment for KA.

**CASE REPORT**

A male patient aged 67 years was referred to oral diagnosis clinic at the department of oral pathology, oral medicine, diagnosis and radiology, faculty of dentistry, university of Benghazi for evaluation of an exophytic growth on the lower lip with one year duration. There was no associated history of previous local trauma. Patient is nonsmoker, medical history revealed diabetes mellitus on metformin tablets. Facial examination revealed well-demarcated multiple sessile exophytic nodular growth located at the junction of vermilion border and the mucosa of lower lip with brownish and blackish coloration. The lesions measured approximately 1.0 cm in its greatest diameter. The lesions were non-tender, firm with no discharge. Palpation of neck did not disclose any suspicious lymph nodes. The boundaries of the reported lesions were indurated.

An initial differential diagnosis of squamous cell carcinoma or keratoacanthoma. An incisional biopsy was performed under local anesthesia and the specimen was examined histopathologic- ally.

The histopathologic examination revealed a tumor made of neoplastic epithelial proliferation. The epithelial cells look benign and mature in general although some areas exhibited dyskeratotic changes. The underlying connective tissue is sharply demarked from the neoplastic epithelium and revealed mild chronic inflammatory cell infiltrate (Fig.2). At the periphery, basal cell nuclear hyperchromatism, conspicuous nucleoli, and cellular pleomorphism (Fig.3) were evident in the tissue sections.

The correlation among the history, clinical picture, and histopathological findings strongly suggested keratoacanthoma.

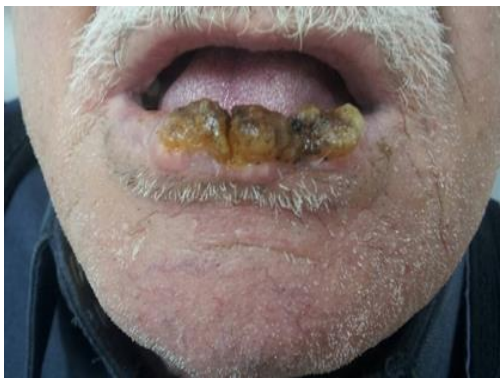

**Fig. 1.** Clinical photograph showing giant keratoacanthoma at time of presentation.

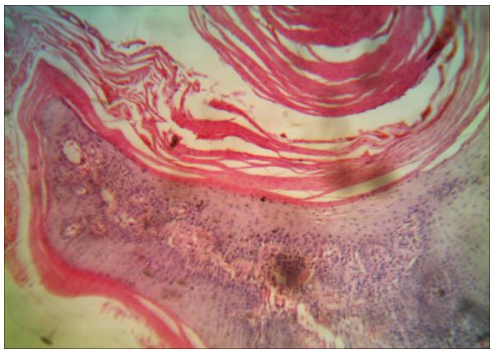

**Fig. 2.** Photomicrograph of histopathological features of keratoacanthoma showing a neoplastic epithelial proliferation with an evident epithelial lip, keratin-filled crater and stroma infiltrated with chronic inflammatory cell infiltrate. (Hematoxylin and eosin, x-400)

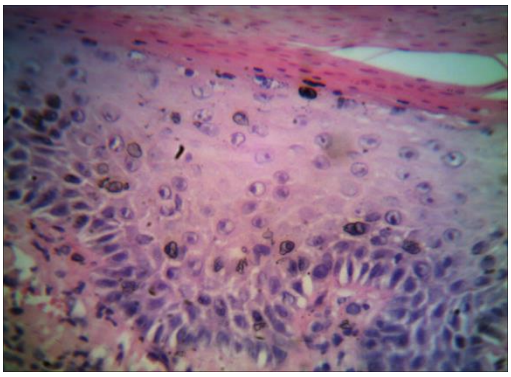

**Fig. 3.** Photomicrograph of keratoacanthoma showing epithelial dyskeratosis, basal cell nuclear hyperchromatism, conspicuous nucleoli, and cellular pleomorphism. (Hematoxylin and eosin, x.400).

**DISCUSSION:**

The first description of the 'crateriform ulcer of the face was given by Jonathan Hutchinson in 1889,[9] and since then many different synonyms like molluscum sebaceum, self-healing-epithelioma and keratocarcinoma have been used. In the 1940's, Freudenthal proposed the name keratoacanthoma (KA) to distinguish these lesions from squamous cell carcinomas.[10,11]

Most keratoacanthomas occur on sun-exposed areas. The face, neck, and dorsum of the upper extremities are common sites, while truncal lesions are rare. The lesions are usually solitary but can be multiple, typically are solitary beginning as firm, roundish, skin-colored or reddish papules that rapidly progress to dome-shaped nodules with a smooth shiny surface and central crateriform ulceration or keratin plug that may project like a horn.

The exact etiology of keratoacanthoma is unknown. Exposure to ultraviolet light is the primary cause, however, several precipitating factors have been implicated are immune-compromised or immune-suppressed patients,[12] chemical carcinogens (tar, mineral oil, and cigarette smoking),[13] trauma (body peel, carbon dioxide laser ablation),[14] surgical scar human,

genetic factors, papilloma virus (HPV specifically types 9, 11, 13, 16, 18, 24, 25, 33, 37, and 57). [15,16] Recently, the association of keratoacanthoma with tattoos has been reported.[17,18]

The clinical course of KA is usually typical of the lesion. Can be explained in three distinct clinical stages, which initiates as a 'proliferative stage' followed by a 'mature stage' and finally an 'involution stage', It begins as nodule grows rapidly in size over a period of 4-5 weeks, remains static for another 4-8

weeks before undergoing spontaneous involution with the expulsion of keratin and complete resolution observed in the next 6-8 weeks period of time,[18] leaving a scar with an area of depression.

The time course from origin to spontaneous involution takes about 4 to 6 months, leaving scar. However, some keratoacanthomas do not fit this pattern, and may be persist for a year or more before undergoing spontaneous resolution.[19] As in our case the lesion persisted for almost one year

Although the KA usually appears as a solitary lesion, multiple tumors may be found and may be associated with various syndromes like Muir-Torre, xeroderma pigmentosum and nevus

sebaceous of Jadassohn.[18] Other multiple lesion variants have also been described such as Ferguson Smith type and eruptive Przyborski type.[20]

The distinction between keratoacanthoma and squamous cell carcinoma has been a matter of discussion since the first descriptions of this condition.[21] Histopathological examination remains the gold standard for the distinction of squamous cell carcinoma and keratoacanthoma.[22,23]

Cribier et al [24] analyzed a large series of squamous cell carcinoma and keratoacanthoma to determine the reliability of common histopathological criteria that have been proposed as distinctive markers between these lesions. They showed that only 5 of 14 criteria are of a certain value in differentiating squamous cell carcinoma from keratoacanthoma. These criteria are: sharp outline between stroma and proliferation; epithelial lip; ulceration; pleomorphism or anaplasia; and mitoses. Keratoacanthomas typically progress through three clinical stages: a rapidly proliferating stage, a stable mature stage, and then a stage of involution. The entire process occurs from 4 to 9 months and may heal with a scar.[18]

**Treatment:**

KA generally heals spontaneously and leaves a scar. However, its rapid growth causes tissue destruction. Thus, the treatment of choice is complete surgical excision. [25] Other methods have been described such as the use of cryotherapy, electro-dissection and curettage, radiotherapy, CO2 laser surgery, intra-tumor or topical treatment with 5-fluoracil, corticosteroid, and methotrexate.[26]

**CONCLUSIONS:**

Keratoacanthoma is a benign of epithelial origin character a fast-growing lesion which regresses and confines spontaneously. It is character with unique clinical features but unfortunately makes it very similar to squamous cell carcinoma. A detailed study of histopathological features still remains the most recommended diagnostic feature.

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