

# Acantholytic Seborrheic Keratosis

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## Abstract

We are reporting a rare case of an acantholytic seborrheic keratosis and briefly reviewing the relevant literature.

## INTRODUCTION

Seborrheic keratoses are one of the most common benign cutaneous tumors in older population. They can occur on any part of the body; however, the back and chest are common locations. The appearance of seborrheic keratoses can vary widely. They may be light tan to brown or black. The most common texture is rough, with a bumpy, grainy surface that crumbles easily. Typically, they appear as dark 'stuck-on' lesion on the skin surface. Seborrheic keratosis with acantholysis is a rare variant. Acantholysis represents an epidermal cell separation as a result of breakdown of the intracellular connections, leading to the loss of cohesion between keratinocytes.

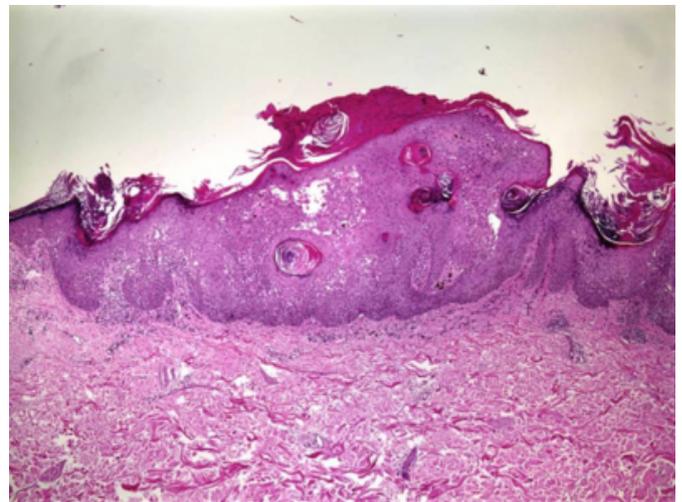
## CASE REPORT

A 60-year-old female presented with 'a mole' on her back that had recently become somewhat irritated. She had had a few similar lesions removed previously, which were all benign. Examination of her mid back revealed a 6-mm keratotic plaque with darker black areas at the edges. The clinical diagnosis was "inflamed seborrheic keratosis".

On microscopic examination of the excised lesion, the tumor showed the typical histological features of seborrheic keratosis including hyperkeratosis, acanthosis composed of dark basaloid cells, and papillomatosis, and keratinous horn cysts. [Fig 1]. Within the basaloid cells, there were areas of acantholysis and with cavity formation [Fig. 2]. The acantholytic cavity contained proteinaceous fluid and degenerating keratinocytes. There were several squamous 'eddies' but no significant keratinocytic dysplasia around the acantholytic area. A mild chronic inflammatory cell infiltrate was present in the superficial dermis.

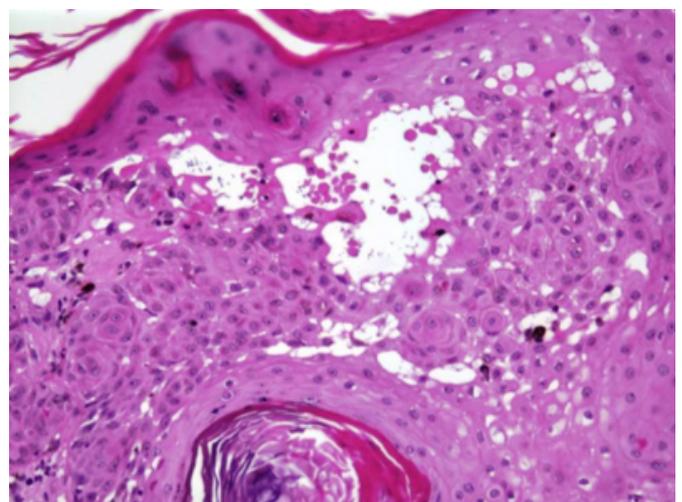
**Figure 1**

Figure 1: Seborrheic keratosis, low magnification.



**Figure 2**

Figure 2: Acantholytic seborrheic keratosis, higher magnification.



### COMMENT

Seborrheic keratosis shows a variety of histological types, such as, irritated, inflamed, adenoid or reticulated, hyperkeratotic, acanthotic (plane), clonal (nesting), melanoacanthoma, and inverted follicular keratosis. In addition, two clinical variants of seborrheic keratosis are dermatosis papulosa nigra and stucco keratosis.

All types of seborrheic keratosis share the common histological features that include hyperkeratosis, acanthosis, and papillomatosis. The acanthosis is due entirely to upward extension of the tumor. In the irritated (activated) type of seborrheic keratosis, the characteristic feature is the presence of numerous whorls or eddies composed of eosinophilic flattened squamous cells arranged in an onion-peel fashion, resembling poorly differentiated horn pearls. Rare acantholysis has been observed within tumor nests composed of squamous cells. The same histological pictures as seen in irritated seborrheic keratosis have been described in inverted follicular keratosis. However, it occurs exclusively on hair bearing skin area. The characteristic findings in adenoid or reticulated seborrheic keratosis include numerous thin tracts of epidermal cells extending from the epidermis, showing branching and interweaving in the dermis. In the acanthotic type, the epidermis is greatly thickened. Marked inflammatory infiltrates and an increased amount of melanin are also seen frequently. Prominent hyperkeratosis, papillomatosis and inconspicuous acanthosis are the striking features in the hyperkeratotic type. In the clonal or nesting type, well-defined nests of cells are located in the epidermis. These nests of cells appear to be small and dark staining, resembling basal cell epithelioma. The melanoacanthoma type shows marked increase of melanocytes, which is regarded as a benign mixed tumor of melanocytes and keratinocytes.

An acantholytic variant of seborrheic keratosis is an extremely rare. The first report of this variation of seborrheic keratosis was that of Tagami [1] who described two such cases on the abdomen and thigh of two elderly women. The lesions were characterized by prominent acantholysis in addition to the common features of hyperkeratosis, acanthosis, and papillomatosis. The acantholysis was

prominent in the upper portion of the epidermal growth, which showed dyskeratotic cells and disorderly arrangement of the squamous cells. Two additional cases from Japan were subsequently reported by Uchiyama [2] and Maeda [3]. A large study of 524 seborrheic keratosis by Chen [4] revealed 29 cases with focal acantholysis, mostly in the irritated type. In our case, the classic histological features of seborrheic keratosis including hyperkeratosis, acanthosis and papillomatosis are noted. We also have observed squamous eddies adjacent to the acantholytic foci. We interpret our case as an irritated seborrheic keratosis with acantholytic features.

The histogenesis of the acantholysis in the seborrheic keratosis is not clear.

External trauma including sunlight, which causes dyskeratosis, may contribute to these changes. A moderate increase in the rate of apoptosis is observed in all varieties of seborrheic keratoses compared to normal skin. Alteration of epidermal growth factors or their receptors have been implicated in the development of seborrheic keratoses. The expression of bcl-2, an apoptosis-suppressing oncogene, is low in seborrheic keratosis in contrast to the high values in basal cell and squamous cell carcinoma [5]. The etiology and pathogenesis of seborrheic keratosis remain unknown.

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