

## Case Report

# A solitary and asymptomatic papule on the face of a 46-year-old woman

## 一名 46 歲婦女臉上無症狀的單發性丘疹一例

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Balloon cell naevus (BCN) is a rare melanocytic naevus variant and mainly occurs during the first three decades of life, mostly presenting as small pigmented papule or nodule. This report describes an unusual clinical presentation of BCN at a climacteric age and the characteristic features of histopathology of this rare type of naevus.

氣球細胞痣是一種罕見的黑素細胞痣變種，主要發病年齡在三十歲以下，多呈現為細小的色素性丘疹或結節。本報告陳述了一例臨床上異常地發生於更年期年齡的氣球細胞痣，及這種罕見的痣之典型組織病理學特徵。

**Keywords:** Balloon cell, naevus, pathology

關鍵詞：氣球細胞、痣、病理

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## Introduction

Balloon cell naevus (BCN) is considered as a special and rare type of melanocytic naevus, accounting for nearly 1.7% of melanocytic naevi. The clinical presentation is not distinctive. The origin of the name is mainly based on its distinctive histopathological features. The basic histopathology pattern of BCN is similar to that of the conventional melanocytic naevus, in which the naevus cells frequently present as clusters or nests. But the BCN naevus cells, namely balloon

cells, are histologically different from common naevus cells. The balloon cells are usually large (20-40  $\mu\text{m}$  in diameter) and possess a central nucleus, finely granular cytoplasm, and unclear cytoplasmic melanin.<sup>1,2</sup> The balloon cell proportion is usually over 50% because scattered balloon cells can be occasionally observed in the typical melanocytic naevus.<sup>3</sup> Melanotic lesions have been described predominantly on the head and neck, usually presenting as a melanin-pigmented papule or nodule. We present a case of achromic papule on the face, which was important to avoid clinical and histological pitfalls in diagnosis.

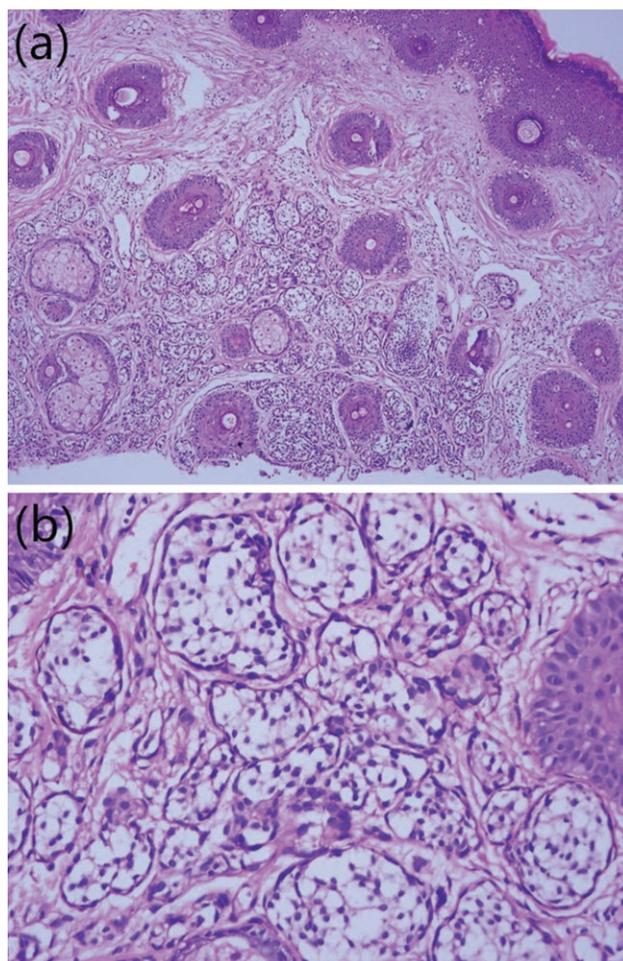
### Case report

A 46-year-old, otherwise healthy Chinese woman presented with a several year history of a solitary papule on her face. Clinical examination revealed a skin to light-brown coloured elevated papule, measuring 5 mm x 5 mm in diameter on her left cheek. The surface of the papule was relatively smooth (Figure 1). The lesion had changed in colour gradually from brown to light-brown. It was asymptomatic. There was no associated history of trauma or repeated irritations to the affected site. An excisional biopsy was performed for cosmetic reasons.



**Figure 1.** There was a 5 mm x 5 mm in diameter sized skin-to-light brown colored papule on the outside of upper end of the left nasolabial groove.

Histological examination revealed the typical architecture of a dermal naevus with nests of naevus cells in the reticular dermis. The naevus was composed almost entirely of so-called clear cells. Clusters of clear cells resembling sebaceous cells, characterised by their comparatively large vacuolated cytoplasm associated with round-to-oval basophilic nuclei, were present in the reticular dermis (Figure 2). There was a Grenz zone between the epidermis and the naevus nests, and no mitotic figures were found in the naevus cells.



**Figure 2.** Clusters of clear cells, ballooned cells resembling sebaceous cells were present in the reticular dermis and there was a grenz zone between the epidermis and the clear cells. (a) Haematoxylin-eosin, original magnification x100; (b) Haematoxylin-eosin, original magnification x400.

## Discussion

Balloon cell naevus is considered a special and rare type of melanocytic naevus. It was first described by Judalewitsch in 1901.<sup>4</sup> The origin of the name is based on the distinctive histopathological features. The naevus demonstrates a predominance of clear cells (over 50%), which are distinctly uncommon and has been designated as *balloon cell naevus*.<sup>1</sup> The basic histopathology pattern of BCN is similar to the conventional melanocytic naevus, in which the naevus cells frequently present as clusters or nests. But the BCN naevus cells, namely balloon cells, are larger (20-40  $\mu\text{m}$  in diameter) and possess a central nucleus, finely granular cytoplasm, and unclear cytoplasmic melanin.<sup>2</sup>

The head and neck are the most commonly affected sites, followed by the trunk and extremities. The incidence is approximately equal in male and female, and BCN is most often found during the first three decades of life.<sup>5</sup> The clinical manifestations are melanin-pigmented papule or nodule, with slow development and no symptoms. The pathogenesis of ballooning change is not fully understood. It may be due to a defect in melanin synthesis the altered naevus cells.<sup>6</sup>

In this case, from the histopathological features we have considered the differential diagnosis of balloon cell melanoma. However, this was excluded as there was no significant nuclear atypia, nucleoli were not prominent, and no mitotic figures were identified. Clinical and

histopathological correlation confirmed the diagnosis of BCN.

The reason for the change of colour of the lesion from deep to light brown during is still unclear. It can be due to the migration of melanocytes from the surface of the epidermis down deep into the dermis, thus lightening is regarded as an aspect of the expected maturation. Further study is needed for more precise understanding of the ballooning changes. The preferred treatment of balloon cell naevus is an elliptical excision. Though some cases of recurrence have been reported,<sup>7</sup> malignant degeneration of balloon cell naevus has not been seen. In our case, there was no relapse when the patient followed up for three months.

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