Case Report

Collision tumour of actinic keratosis and basal cell carcinoma with different dermoscopic features

光化性角化病與基底細胞癌的碰撞性瘤之不同皮膚鏡特徵

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Background: Collision tumours are rare neoplastic lesions consisting of different benign and malignant tumours in the same anatomical site. Various intrinsic and extrinsic factors such as ageing, skin type, UV exposure may lead development of different tumoural lesions. Objective: The aim of the present study was to identify and clarify dermoscopic features of collision tumour of actinic keratosis and basal cell carcinoma which can be a diagnostic pitfall both clinically and dermoscopically. Methods: Dermoscopic features of five histopathologically-proven collision tumours of actinic keratosis and basal cell carcinoma and their dermatopathological correlates were retrospectively analysed. Results: On dermoscopy, coiled vessels surrounded by a whitish halo were detected in one lesion. Small blue-gray blotches were detected in all lesions even located on periphery or centrally. White circles, prominent follicular openings, four dot structures (rosettes) were detected in one lesion. Pink structureless areas were detected in three of the lesions. Conclusion: Clinicians should consider collision tumour when a lesion contains dermoscopic features of more than one type of tumour.

背景：碰撞性瘤是罕見的腫瘤性病變，由相同解剖部位的不同良性與惡性腫瘤構成。各種內在和外在的因子（例如衰老、膚色類型、紫外線暴露）都可能導致不同腫瘤病變的發展。目的：本研究的目的是鑑定和闡明光化性角化病和基底細胞癌的碰撞性瘤的皮膚鏡特徵，這正因為它們是臨床和皮膚鏡檢查診斷中的常見陷阱。方法：回顧性分析五例經組織病理學證實的光化性角化病和基底細胞癌碰撞性瘤的皮膚鏡特徵及其皮膚病理學相關性。結果：在皮膚鏡檢查中，所有五例病變中，無論是外圍或中心都檢測到細小藍灰色斑點；三例病變中發現了粉紅色的無結構區域。此

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Introduction

The presence of two or more independent neoplasms in the same lesion is defined as collision, compound or contiguous tumour. Collision tumour is a rare entity and usually very difficult to diagnose clinically, especially when one component of the tumour is relatively smaller. This will be of concern if smaller component has a malignant aetiology. Almost all of the published articles are case reports except for two case series in the literature. In the previous case series, it was reported that basal cell carcinoma (BCC) is the most frequent tumour among skin collision tumors and the most common combination is benign melanocytic naevi and BCC. Diagnosis requires a high index of suspicion and dermoscopy is a valuable tool in recognising these tumours.

Case 1

An 81-year-old male presented with a one-year history of a slow growing, asymptomatic pink lesion on the right temple. Dermatological examination revealed a solitary, 1 cm, pink, papular lesion on the right temple, multiple pigmented macular lesions and severe solar damage over the face (Figure 1a). Dermoscopic examination revealed multiple coiled vessels surrounded by a whitish halo and a small blue-grey dot at the center of the lesion (Figure 1b). Histopathological examination of the excisional biopsy showed parakeratosis, hyperkeratosis, irregular acanthosis, hypergranulosis and atypical keratinocytes with high mitotic index that strongly suggested actinic keratosis (AK) involving the half of the epidermis and clusters of keratinocytes with palisaded basaloid cells at the border which were consistent with BCC (Figure 1c-1d, H&E, x40). The case was therefore diagnosed as collision tumour consisting of AK and BCC.

Case 2

A 72-year-old female presented with a 2-year history of a red patch on her nose of which she noticed a colour change over 6 months. Dermatological examination revealed a solitary, 1.5 cm, erythematous patch with a homogenous black papule (Figure 2a). Dermoscopic examination revealed white circles, prominent follicular openings, four dot blotches (rosettes) and centrally located gray blotches of varying sizes (Figure 2b). Histologically the lesion was consistent with collision tumour of AK and BCC.

Case 3

A 76-year-old female presented with a 2-year history of non-pigmented lesion on her nose. There was a gradual increase in size and change in colour for the past four months. Dermatological examination revealed a solitary, 2 cm, slightly pigmented patch with an asymmetrical black spot on the superior border of the lesion (Figure 2c). Dermoscopic examination revealed surface scale, pink-brown structureless areas in most part of the lesion, and gray, black dots and blotches at the periphery (Figure 2d). Histologically the lesion was consistent with collision tumour of AK and BCC.

Keywords: Actinic keratosis, basal cell carcinoma, collision tumour, dermoscopy

關鍵詞：光化性角化病、基底細胞癌、碰撞性瘤、皮膚鏡
Figure 1. (a) A solitary, 1 cm, pink, papular lesion on the right temple, multiple pigmented macular lesions and severe solar damage all over the face. (b) On dermoscopy, multiple coiled vessels surrounded by a whitish halo and a small blue-grey dot at the center of the lesion. (c) Parakeratosis, hyperkeratosis, irregular acanthosis, hypergranulosis and atypical keratinocytes involving the half of the epidermis (H&E x 40). (d) Clusters of keratinocytes with palisaded basaloid cells at the border which were consistent with basal cell carcinoma (H&E x 40).
Case 4

A 62-year-old male presented with a 1-year history of non-pigmented lesion on right temporal region. Dermatological examination revealed a solitary, 1 cm, pink patch with an asymmetrical black spot at the centre of the lesion (Figure 3a). Dermoscopic examination revealed pink structureless areas interrupted by follicular openings (strawberry pattern), white circles, perifollicular arrangement of grayish-bluish radial lines that converge to a common base (maple-leaf) and serpentine vessels at the central part (Figure 3b). Histologically the lesion was consistent with collision tumour of AK and BCC.

Figure 2
(a) A solitary, 1.5 cm, erythematous patch with a homogenous black papule on this patch. (b) White circles, prominent follicular openings, four dot clods (rosettes) and centrally located gray clods in varying sizes. (c) A solitary, 2 cm, slightly pigmented patch with an asymmetrical black spot on the superior border of the lesion. (d) On dermoscopy, surface scale, pink-brown structureless areas in most part of the lesion, and gray, black dots and clods at the periphery.
Case 5

A 53-year-old male presented with a 20-year history of nonpigmented lesion on right cheek which had been enlarging over the last four years. Dermatological examination revealed a solitary, 2 cm, pink patch with an asymmetrical black spot at the inferior of the lesion (Figure 4a). Dermoscopic examination revealed pink structureless areas and grey blotches at the inferior of the lesion (Figure 4b). Histologically the lesion was consistent with collision tumour of AK and BCC.

Discussion

Collision tumours have been reported in a few case series and mainly as anecdotal case reports in the literature. Collision tumours may comprise of any combination of benign and malignant skin tumours from various layers of the skin. Several intrinsic and extrinsic factors such as age, skin type, ultraviolet radiation (UVR) exposure have a role on this progression. Clinical suspicion is the key point in diagnosis and dermoscopy has an indisputable role in the recognition of these kinds of tumours.

Figure 3a

Figure 3b

Figure 3. (a) A solitary, 1 cm, pink patch with an asymmetrical black spot at the centre of the lesion. (b) On dermoscopy pink structureless areas interrupted by follicular openings (strawberry pattern), white circles, perifollicular arrangement of grayish-bluish radial lines that converge to a common base (maple-leaf) and serpentine vessels at the central part.
Actinic keratoses are erythematous, small, scaly patches which are closely associated with chronic UVR. They have been recognised as precancerous lesions previously but today they are accepted as an early in-situ squamous cell carcinoma (SCC). Different histological subtypes of AK have been identified in the literature, orthokeratosis overlying adnexal ostium, and parakeratosis above atypical keratinocytes are the main histological findings of AK. Characteristic dermoscopic features of AK are erythematous pseudo-network (which is also described as strawberry pattern), prominent follicular openings, linear wavy or small, coiled or dotted vessels, multiple gray to dark-brown dots and blotches around the follicular ostia, complete/ incomplete gray-brown circles, brown to gray pseudo-network, white circles and four dots blotches. In our patients, surface scale, four-dot signs, white circles, prominent follicular openings were the typical dermoscopic features of AK. Dermoscopic examination of case 1 also revealed multiple coiled vessels surrounded by whitish halo and a small blue-grey dot at the centre of the lesion. Coiled vessels in dermoscopy are defined as variation of dotted vessels that reflects tortuous capillaries often distributed in clusters. Since they have been mainly reported in seborrhoeic keratosis, Bowen’s disease and SCC, AK should also be kept in mind in the differential diagnosis.

Basal cell carcinomas are malignant proliferations of basaloid and follicular keratinocytes and dermoscopy has a key role in the diagnosis. The main dermoscopic features of BCCs are serpentine-branched vessels, white structureless areas, white lines, blue-grey dots-blotches, segmental radial lines converging to a common base or point, erosions and ulcers. Blue-grey-brown dots-blotches have been reported to occur more often in small BCCs as similarly seen in our patients. Although UV radiation seems to be the major aetiological factor in our patients, severe sun damage was detected only in one of the patients.

In conclusion, we want to highlight the key role of dermoscopy in the diagnosis of collision tumours especially when the malignant component is small, as seen in our patients. When a lesion contains dermoscopic structures of different tumoural lesions, collision tumour should be considered.

Figure 4. (a) A solitary, 2 cm, pink patch with an asymmetrical black spot at the inferior of the lesion. (b) On dermoscopy, pink structureless areas and gray clot at the inferior of the lesion.
References


