Dermoscopic features of epidermoid cyst beyond punctum

Sir,

Epidermoid cyst, also called sebaceous cyst, is the most common benign cutaneous cyst encountered during clinical practice. It usually presents as an asymptomatic slow-growing, spherical, smooth, elastic and dome-shaped keratin-filled cyst. Due to variable size, colour, and consistency, it often resembles various benign adnexal and non-adnexal tumours clinically. The dermoscopic examination is primarily aimed at demonstrating the punctum, which facilitates the diagnosis.

All our patients were skin phototypes IV and V. None of them presented with punctum either clinically or dermoscopically. Table 1 lists the clinical and dermoscopic (Heine Delta 20, under non-polarised mode) details of our patients [Figures 1–7]. Each diagnosis was confirmed by histopathology. Neither patient showed any feature of rupture, secondary bacterial infection, or calcification. All lesions were successfully excised without any recurrence.

Diagnosis of epidermoid cyst is essentially clinical. A cystic consistency with central punctum is usually diagnostic. However, diagnostic dilemma arises when the cystic consistency becomes firm or hard with or without tenderness which may be secondary to bacterial infection, inflammation, and calcification. Additionally, lack of punctum and colour variation, especially in darker skin, may result in misdiagnosis.

Table 1: Clinical and dermoscopic features of seven sebaceous cysts

Cases	Age/gender	Location	Morphology	Differential diagnosis	Dermoscopic features
1	16/M	Chin	Yellowish nodule with telangiectasia	Non-Langerhans histiocytosis	Yellowish-white homogeneous area with arborising vessels
2	46/M	Lower back	Macro comedone	Dilated pore of Winer Pilar sheath acanthoma	Brown keratotic plug surrounded by bluish-white homogeneous area
3	24/M	Shoulder	Bluish cyst with telangiectasia	Sebaceous cyst Hidrocystoma	White homogeneous area with arborising vessels
4	40/M	Abdomen	Light blue firm nodule	Sebaceous cyst	Bluish-white homogeneous area
5	60/F	Arm	Hyperpigmented keratotic papule	Keratoacanthoma	Central brown-black keratotic area surrounded by bluish-white homogeneous area
6	45/F	Elbow	Skin-coloured cyst	Sebaceous cyst Phaeohyphomycosis	Skin coloured to white homogeneous area Focal hairpin vessels Peripheral ridge and groove area
7	50/M	Abdomen	Reddish-brown nodule	Aneurysmal or haemosiderotic Dermatofibroma Leiomyoma	Grey-to-grey-white homogeneous area Pigment network and rings Linear irregular crypts White clods

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Figure 1a: Yellowish nodule with surface telangiectasia

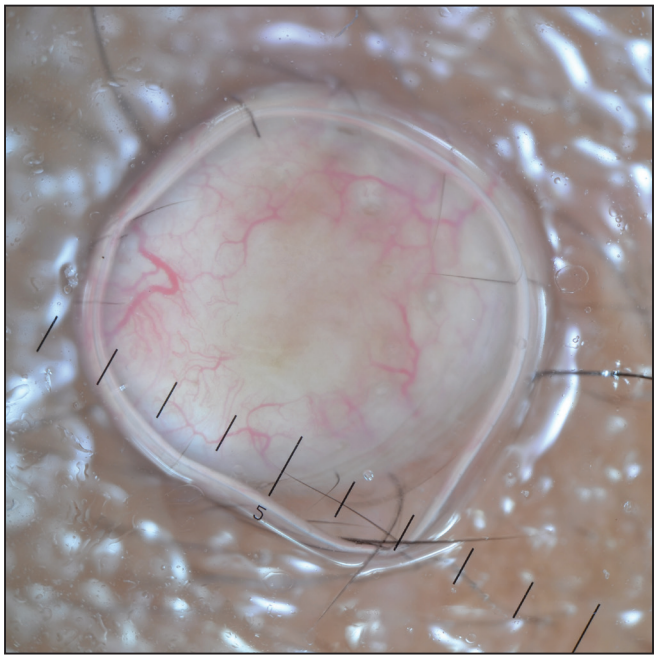

Figure 1b: Dermoscopy (Heine Delta 10×, under non-polarised mode) shows a yellowish-white homogeneous area with arborizing vessels

Figure 2a: Macro-comedone with keratotic plug

Figure 2b: Dermoscopy shows (Heine Delta 10×, under non-polarised mode) brown keratotic plug surrounded by bluish-white homogeneous area

In this series, the clinical differentials were diverse due to following reasons: morphological variation ranging from cyst, nodule, open macro-comedone to keratotic papule and heterogeneous colour such as skin coloured, yellow and blue to reddish-brown.

Dermoscopic examination is a useful supplementary tool in diagnosing various cutaneous cysts and tumours. In epidermoid cysts, demonstration of a punctum, called the pore sign, facilitates the diagnosis.[1] Other features include white, yellow, and blue homogeneous areas and arborizing vessels.[2-4] Dermoscopy

Figure 3a: Bluish cyst with telangiectasia

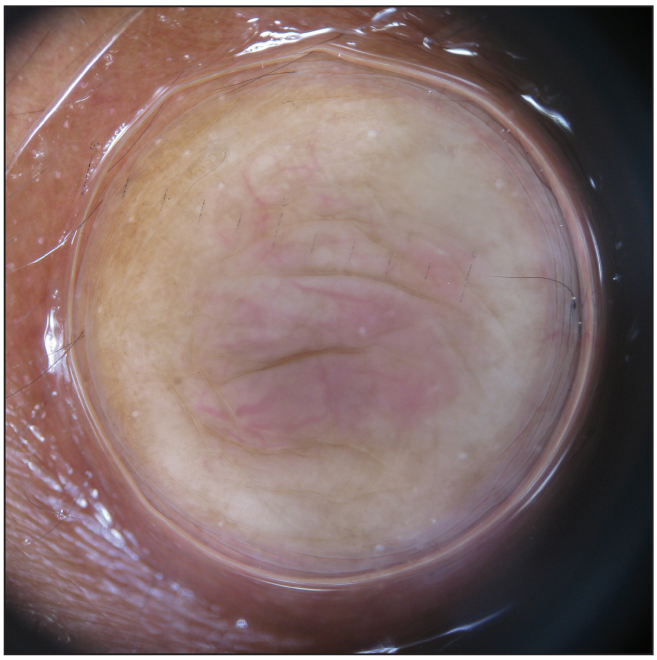

Figure 3b: Dermoscopy shows (Heine Delta 10×, under non-polarised mode) white homogeneous area with arborizing vessels

Figure 4a: Light blue-coloured firm nodule

Figure 4b: Dermoscopy shows (Heine Delta 10×, under non-polarised mode) bluish-white homogeneous area

revealed the punctum in almost 60% cases, even when clinically invisible.[1] In our experience, the pore sign helps in differentiating facial and scalp epidermoid cysts from trichilemmal cyst, another common cystic lesion. Likewise, in acral areas, the pore sign helps in ruling out phaeohyphomycosis and myxoid cyst. A recent study reported that pore sign, blue-white veil and arborizing vessels were associated with unruptured epidermoid cyst while red lacunae and peripheral branched linear vessels indicated ruptured epidermoid cysts.[5]

In the present series, we included patients who did not reveal any punctum, either clinically or dermoscopically. We observed seven dermoscopic patterns, which are mentioned in Table 2 along with relevant differential diagnoses.

Figure 5a: Hyperpigmented keratotic papule

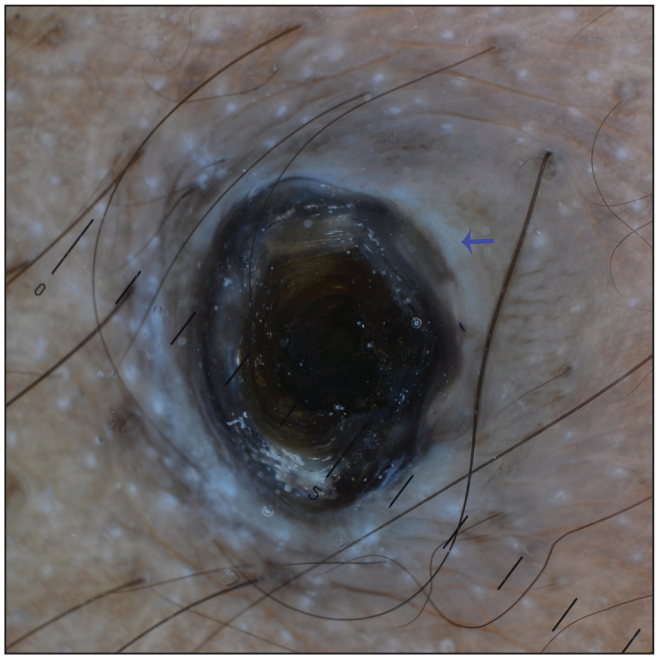

Figure 5b: Dermoscopy (Heine Delta 10×, under non-polarised mode) shows a central brown-black keratotic area surrounded by bluish-white homogeneous area

Figure 6a: Solitary skin-coloured cyst on the elbow

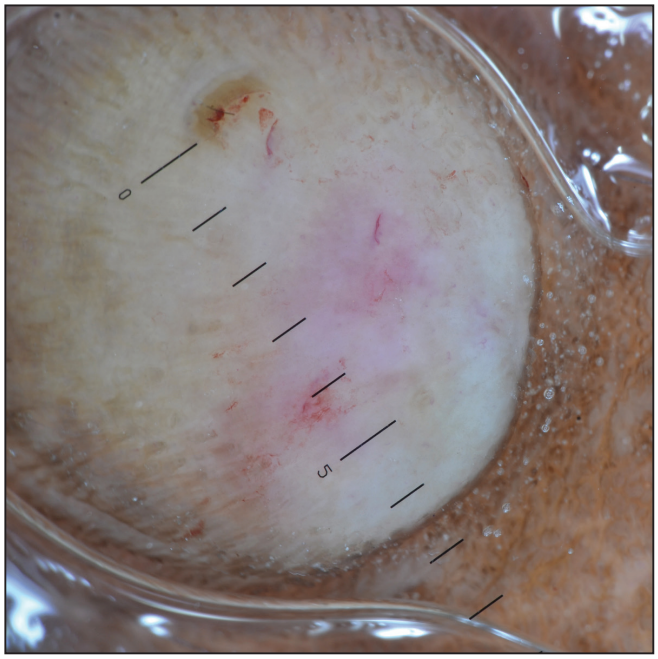

Figure 6b: Dermoscopy shows (Heine Delta 10×, under non-polarised mode) skin-coloured to white structureless area

The white homogeneous areas represent keratin, the yellow colour results from mass effect of concentric layers of laminated keratin, brown homogeneous areas occur due to increase epidermal melanin and the bluish colour may be attributed to Tyndall effect, as described in apocrine hidrocystoma.

In conclusion, we describe some diverse and unreported dermoscopic features of epidermoid cysts without punctum, in seven patients with skin of colour. Additionally, grey homogeneous areas, pigment networks and rings may be observed in such patients. Thus, an epidermoid cyst without dermoscopic pore sign may mimic various appendageal tumours, and a pathological examination is necessary for accurate diagnosis.

Figure 7a: Reddish-brown nodule

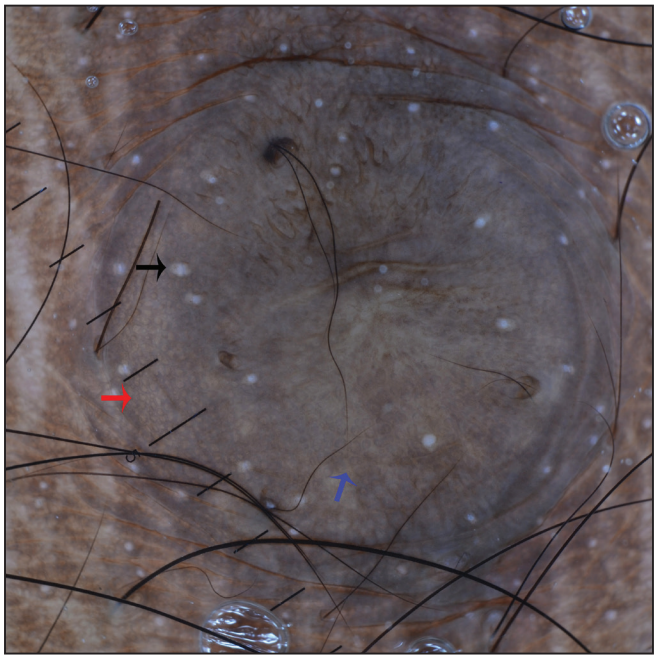

Figure 7b: Dermoscopy shows (Heine Delta 10×, under non-polarised mode) gray to gray-white homogeneous area, pigment network (red arrow) and rings (blue arrow), linear irregular crypts, and white clods (black arrow)

Table 2: Dermoscopic differential diagnoses of different patterns observed in this series

Patterns	Dermoscopic features	Dermoscopic differentials
Pattern 1	Yellow-white homogeneous area with arborising vessels	• Non-Langerhans cell histiocytosis
Pattern 2	Brown keratotic plug surrounded by bluish-white homogeneous area	• Dilated pore of Winer
Pattern 3	White homogeneous area and arborising vessels	• Non-pigmented basal cell carcinoma • Solitary apocrine hidrocystoma
Pattern 4	Bluish-white homogenous area	• Chondroid syringoma • Solitary apocrine hidrocystoma
Pattern 5	Central brown-black keratotic area surrounded by bluish-white homogeneous area	• Keratoacanthoma
Pattern 6	Skin coloured to white homogeneous area	• Neurofibroma • Dermatofibroma
Pattern 7	Grey-to-grey-white homogeneous area with linear irregular crypts	• Neurofibroma • Dermatofibroma

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Conflicts of interest

There are no conflicts of interest.

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