

## Pigmented epidermal cyst - A rare case report.

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### ABSTRACT

Epidermal cyst is a common benign cystic lesion of skin. These cysts are lined by stratified squamous epithelium. Melanin deposition can be seen in the wall of the cyst to variable extent, but dense collection of melanin is a rare entity. Here we present a case of 24 year old male patient with pigmented epidermal cyst on the back.

**Keywords:** Epidermal cyst, Melanin, Infundibulum.

### INTRODUCTION

Epidermal cysts are a type of cysts which arise from infundibulum of hair follicle and account for vast majority of cutaneous cysts.<sup>[1]</sup> They occur most commonly on the face, scalp, neck and trunk.<sup>[2]</sup> Usually a patient has only one or a few epidermal cysts, rarely many as in some developmental syndromes like Gardner's syndrome.<sup>[1]</sup> Epidermal cysts have a wall composed of true epidermis as seen on the skin surface and in the infundibulum of hair follicle. The cyst is filled with horny material arranged in laminated layers. When an epidermal cyst ruptures and contents of cyst are released into the dermis, a considerable foreign-body giant cell reaction results, forming a keratin granuloma.<sup>[2]</sup> Melanocytes, melanin, and melanophages have been reported in the walls of epidermal cysts in some Indians<sup>[3]</sup> and a Japanese patient.<sup>[4]</sup>

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### CASE REPORT

A 24 year old male patient presented with two swellings on his back for past 6-7 months with slight increase in size for last 1 month. There was no pain or discharge associated with the swellings. Both swellings were excised and sent for histopathological examination. One of the swellings (swelling 1) was given the clinical diagnosis as sebaceous cyst, while the other (swelling 2) was

labelled as ?sebaceous cyst ?melanoma, due to its dark color.

#### Gross examination:

Swelling 1- Received a skin covered greyish white soft tissue piece measuring 1x0.5cm in size. On cutting, cheesy material was seen.

Swelling 2- Received a skin covered soft tissue piece measuring 2x1.5x1cm in size with fat attached. On cutting, cheesy material was seen in the cyst. A dense black area was seen just under the skin. Tissue was whole passed. [Figure 1]

#### Microscopic examination:

Swelling 1: Sections showed a cyst lined by stratified squamous epithelium with ulceration. Cyst was filled with eosinophilic strands of keratin. A brown black pigment was seen scattered in the keratin and also in the small amount of dermal tissue seen in the wall of cyst. [Figure 2]

Swelling 2: Sections showed stratified squamous epithelium with ulceration. Underneath dermis showed dense collection of a brown black pigment scattered throughout the dermis, surrounding the adnexal structures. Keratin flakes were seen scattered separately. [Figure 3,4]

#### Special staining:

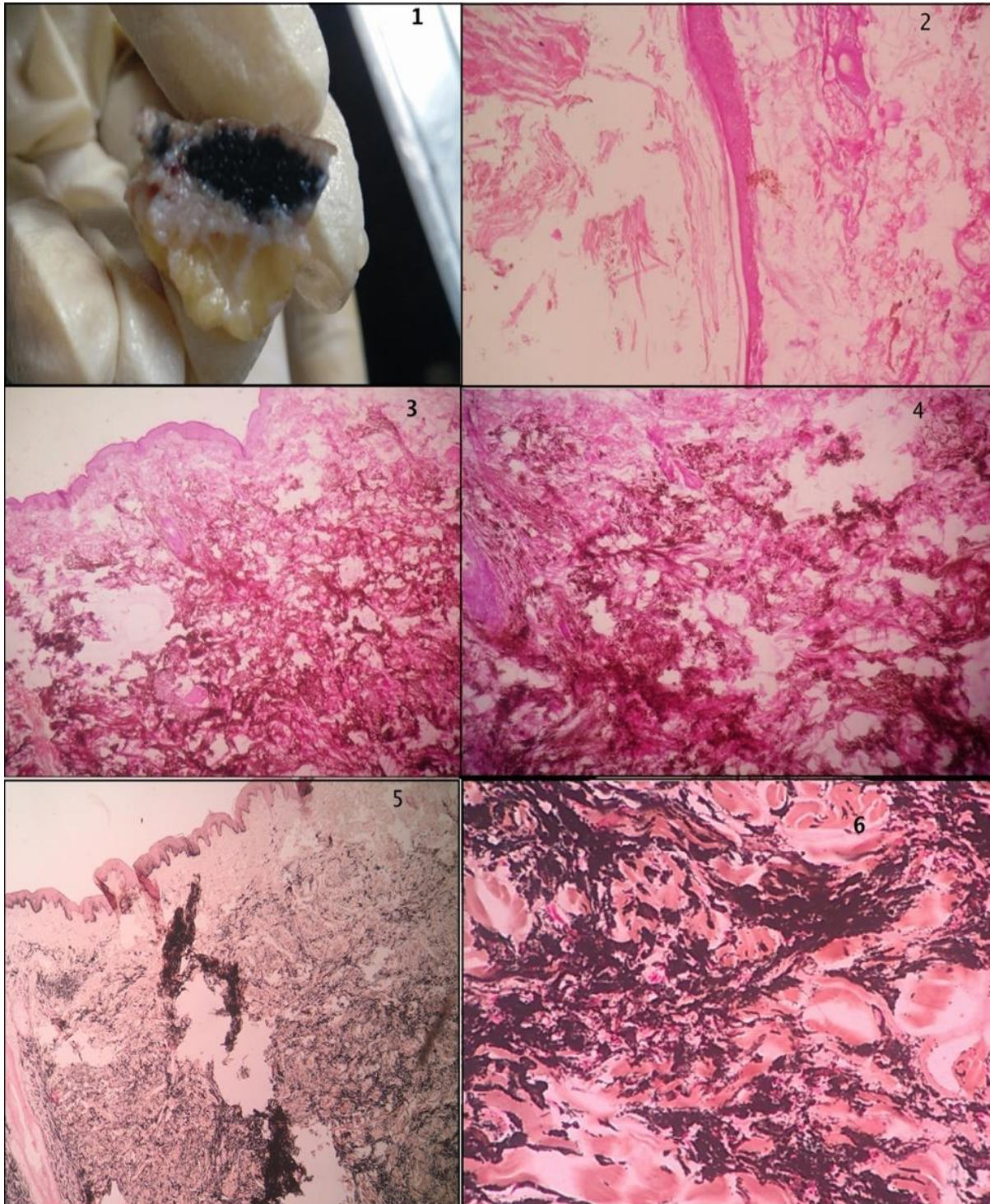
Masson Fontana stain<sup>[5]</sup> for melanin came out to be positive [Figure 5,6] while Prussian Blue stain<sup>[5]</sup> for Hemosiderin was negative.

### DISCUSSION

Melanin deposition in epidermal cysts varies according to physiologic distribution of melanin in populations. Melanocytes and melanin pigmentation

can be seen only rarely in epidermal cysts of whites, but frequently in epidermal cysts of blacks.<sup>[2]</sup> Pigmented epidermal cyst should be differentiated from pigmented follicular cyst in which prominent

rete ridge pattern of epidermal lining and several terminal sized pigmented hair shafts containing abundant melanin pigment are seen in the cyst cavity.<sup>[6]</sup>



Shet et al observed that a large amount of pigment accumulation within epidermal cysts occurs after cyst rupture.<sup>[3]</sup> In our case however, there was only ulceration of the stratified squamous epithelium lining the cyst.

### CONCLUSION

Epidermal cysts show variable melanin deposition in the dermis, but dense collection of melanin is a rare finding. Latter is usually associated with cyst rupture or ulceration of cyst wall.

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