

Case Report

Pigmented Seborrheic Keratosis (Melanoacanthoma) of Nipple A case report with review of literature

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ABSTRACT

Seborrheic Keratosis is a benign skin lesion which develops from the proliferation of keratinocytes of the epidermis. There are very few case reports of seborrheic keratosis occurring over the nipple and areola. Pigmented seborrheic keratosis can be easily mistaken for malignant melanoma. Its occurrence may be associated with internal malignancy (Leser-Trelat sign). We report a case of pigmented seborrheic keratosis of nipple in a 43 year old lady, its associations and differential diagnosis.

Key words: pigmented nodule, seborrheic keratosis, nipple, areola

INTRODUCTION

Seborrheic keratosis (senile wart, melanoacanthoma) is a benign skin tumor that develops due to proliferation of keratinocytes of the epidermis, commonly appears in the middle age or elderly individuals and has a hereditary predisposition.^[1] The common locations include face and trunk but can occur over the back, abdomen, scalp and upper extremities.^[1] Unusual sites are conjunctiva,^[2] nipple and areola^[1] and vulva.^[3] There are very few case reports of seborrheic keratosis occurring over the nipple and areola. The importance of reporting of pigmented seborrheic keratosis lies in the fact

that it can be easily be mistaken for malignant melanoma or its occurrence may be associated with internal malignancy (Leser-Trelat sign).^[4]

We hereby report a case of pigmented seborrheic keratosis of nipple in a 43 year old lady with review of literature.

CASE REPORT:

A 43 year old female patient complained of pigmented nodule over the nipple on the left breast since 2 months. Examination showed a hard, pigmented nodule on the left nipple measuring 1.5cms across. No history of similar complaints in any of the family members.

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Histopathology Findings:

Gross: Received skin covered soft tissue measuring 3.0x3.0x1.5cms. Surface of skin showed nipple and areola measuring 2.0x1.0cm. The surface of skin showed a brown black nodule measuring 1.5cms across.[Fig.1a] Cut surface showed a well circumscribed brown

black nodule with adjacent adipose tissue. [Fig.1b]

Microscopy: Sections studied showed epidermis with hyperkeratosis, papillomatosis, acanthosis with widened rete ridges [Figure 2a] and pseudohorn cysts formation. [Figure 2b] Basal layer showed increased melanocytic proliferation.[Fig.2c] Dermis showed moderate inflammatory cell infiltrates with dilated and congested blood vessels. [Fig.2d] A diagnosis of Pigmented seborrheic keratosis (melanoacanthoma) was offered.

DISCUSSION:

Seborrheic keratosis also known as “Seborrheic verruca, Barnacles of old age, or senile wart” is a common benign non-melanocytic epidermal tumour.^[5] Inherited as an autosomal dominant type, it commonly affects middle age with equal sex distribution.^[1]

Early flat lesions measure < 3mm, slightly elevated with variable hyperpigmentation, whereas late (raised pigmented lesion) are well circumscribed, tan brown or black pigmented large plaque with warty appearances.^[1] They may be seen as an inflammatory halo/eczema like feature referred as “Meyersons phenomenon”.^[1] Commonly occur on trunk, face, back, chest, scalp and extremities.^[1] The other unusual sites are conjunctiva^[2], nipple and areola^[1] and vulva.^[3] There are very few cases of pigmented seborrheic keratosis reported in literature.^[1] In our case also the lesion was seen on the nipple and the areola, which is quite a rare occurrence.

Several etiological factors have been proposed for occurrence of seborrheic keratosis

such as human papilloma virus infection,^[2] alteration in cytokine gene expression, and changes in local expression of anti-inflammatory cytokines,^[2] mutation of a gene coding for a growth factor receptor, fibroblast growth factor receptor (FGFR3).^[6] Growth and pigmentation have a direct relationship with exposure to sunlight, triggered by pregnancy and estrogen therapy.^[1]

Microscopically seborrheic keratosis is characterised by proliferation of keratinocytes forming a well defined endophytic, flat or exophytic nodule of tumor cells. Small to medium cells in the epidermis are separated by horn cysts. The characteristic features of seborrheic keratosis are surface keratinisation (hyperkeratosis), papillomatosis (papillary projections) and acanthosis (wide rete ridges).^[7] Seborrheic keratosis is composed of three cell types which includes a) basaloid keratinocytes which show anastomosing pattern b) pale eosinophilic spinous cells beneath the epidermis and around infundibular horn tunnels c) proliferating melanocytes. Similar microscopic features were seen in our study also.^[2] Our case also showed excessive pigmentation. The possible explanation for this is excessive synthesis of melanin by melanocytes entrapped within the lesion.^[2] Folberg et al in their review have commented that the melanin is injected by the melanocytes into squamous epithelial cells giving rise to dark-pigmented appearance to the tumor.^[2]

Histological variants:

a) Keratotic (papillomatous) variant has a verrucous appearance with variable

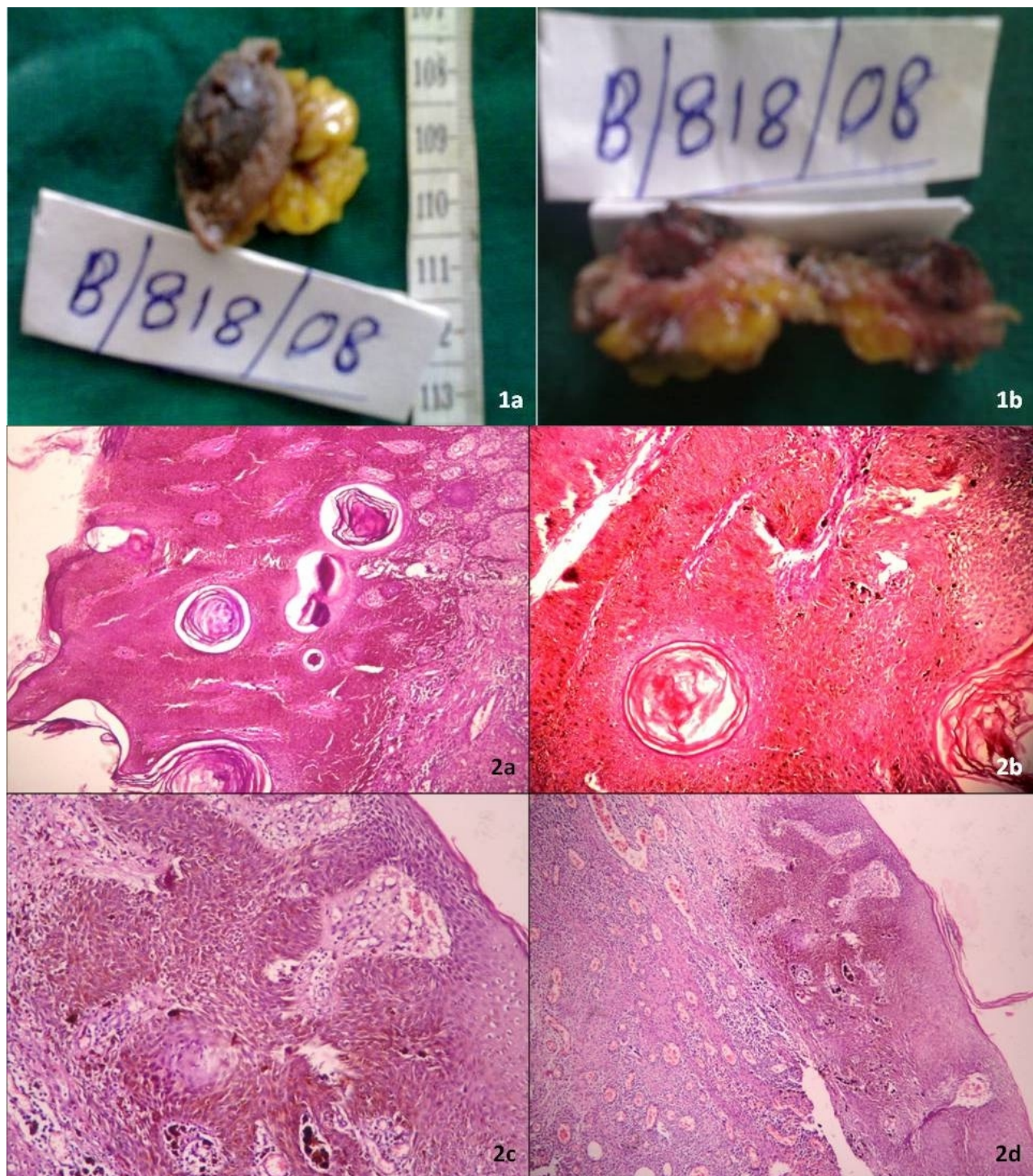


Fig.1: a) Gross photograph showing elliptical piece of skin covered soft tissue with surface showing elevated brown, black nodule b) Cut surface showing well circumscribed brown, black nodule.

Fig.2: - Microphotograph showing a) hyperkeratosis, papillomatosis, acanthosis with pigmented basaloid proliferation and pseudohorn cysts (H&E,x100) b) pseudo horn cysts (H&E,x400) c) proliferation of basaloid cells with pigmentation. (H&E,x400) d) pigmented seborrheic keratosis with dermis showing dilated and congested blood vessels and inflammatory cell infiltrates. (H&E,x100)

proliferation of basaloid and squamoid cells, shows acanthosis, papillomatosis and hyperkeratosis, often with the presence of pseudohorn cysts.^[1]

b) Adenoid variant shows thin proliferating strands of basaloid cells, highly pigmented.^[1]

c) Inverted follicular variant showing whorls of maturing squamous epithelium (squamous eddies).^[1]

d) Acanthotic variant shows hyperkeratotic surface with melanocytic proliferation.^[1]

Melanoacanthoma (pigmented seborrheic keratosis) is a rarely encountered variant which is highly pigmented, dendritic benign melanocytes proliferate in association with relatively amelanotic neoplastic basaloid epithelial cells.^[1]

Increased expression of keratinocyte derived endothelin 1 mediated by TNF α and endothelin converting enzyme 1 α (ECE1 α) is linked to pigmentation in seborrheic keratosis.^[1] Sudden onset of numerous eruptive seborrheic keratosis “Leser-Trelat sign” has been reported in association with internal malignancy, most commonly adenocarcinoma of the stomach and the probable hypothesis could be that seborrheic keratosis is stimulated by growth factors secreted by tumors.^[4] An interesting case of surrounding ipsilateral eruptive seborrheic keratosis along with intraductal adenocarcinoma and Paget's disease of nipple and areola was reported by Shamsadini et al.^[8] A clonal seborrheic keratosis with occasional intraepithelial nesting is referred as “**Borst Jadossohn appearance**”.^[1]

Cascajo et al in their analysis of 54 cases found certain malignant neoplasms associated with seborrheic keratosis such as superficial type

of basal cell carcinoma, squamous cell carcinoma and malignant melanoma in-situ.^[2] In their study they also demonstrated that different morphological expressions of squamous cell carcinoma can occur in association with seborrheic keratosis such as Bowen's disease and keratoacanthoma.^[2] But our case did not show any signs of malignancy of breast or any other internal organs.

Nevoid hyperkeratosis of nipple and areola usually presents as diffuse plaque whereas seborrheic keratosis as sharply demarcated papules or plaques.^[1]

The diagnosis of seborrheic keratosis is mainly based on histopathological examination in order to differentiate from other pigmented skin lesions. Thomas et al have reported a case in which clinically suspected seborrheic keratosis was subjected to biopsy and histologically it proved to be malignant melanoma. So biopsy is not only warranted but very much necessary to identify malignant melanoma that can be missed or underdiagnosed.^[9] Recent studies have also used dermoscopy as a useful method for differential diagnosis of pigmented skin lesions.^[3]

Most cases of seborrheic keratosis require no treatment. However if the growth is itchy or irritating it can be removed by cryotherapy. Other treatment modalities include electrocautery, electrodesiccation and curettage or shave excision.^[10]

CONCLUSION

Pigmented seborrheic keratosis occurring over the nipple and areola is rare, can be mistaken for malignant melanoma and may serve as a cutaneous marker of internal

malignancy.

Hence pathologists should report this lesion with caution, emphasizing the importance of identifying aptly all its variants, considering the various differential diagnosis of pigmented skin lesions and guide the clinicians in opting appropriate treatment modalities.

ACKNOWLEDGEMENT:

Dr. C S B R Prasad for photography

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Source of Support: Nil Conflict of Interest: Nil
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