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Pigmented pilomatrixoma of the thigh - A rare case report

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Abstract

Pilomatrixoma is a benign tumor of the hair matrix and is commonly seen in the head and neck region. Pigmented Pilomatrixoma is an uncommon variant of Pilomatrixoma. Rarity of this variant and the site of lesion suggest reporting of the case.

Keywords: Pilomatrixoma; Pigmented Pilomatrixoma.

Introduction

Pilomatrixoma is a benign tumour of the hair matrix and usually seen in the head and neck region.[1] Only 5% of these lesions occur in the lower limb.[2] It is usually seen in children and are mostly solitary.[1] The presence of melanin pigment and/or melanocytes in this lesion, is referred to as pigmented pilomatrixoma.[3] So in this report we will be going through the histopathologic features of Pigmented Pilomatrixoma.

Case report

A 55-year-old male presented to the surgical opd with a history of painless swelling of the right thigh for 7 months. On examination, the mass was located in the middle 1/3rd of thigh and measured 1cm in diameter. It was partly bluish black in color and firm in consistency. A possibility of Antibi Oma was considered. An excision biopsy was performed in the department of Surgery, Dr YSPGMC and the sample was submitted for histopathologic examination.

Gross examination revealed a globular soft tissue piece measuring 1.5X1X0.3 cm Outer surface was grey white. The tissue was gritty to cut and the inner surface was grey white to grey brown with a black focus.

Microscopic examination showed a nodular, well demarcated lesion surrounded by connective tissue capsule. The lesion comprised of irregular islands of epithelial cells revealing basophilic cells and shadow cells embedded in a cellular stroma.

The basophilic cells had round to elongated deep basophilic nuclei, scant cytoplasm and indistinct cell borders having focally present dendritic melanocytes. At places, these cells were arranged at the periphery of tumor cell islands and merging with islands of faintly eosinophilic keratinized shadow cells revealing central unstained shadow at the site of lost nucleus.

The stroma showed numerous multinucleate giant cells with small focal calcification. Melanin is seen among islands of basophilic cells at places which was confirmed by a Fontana-Masson stain. Based on the above his to-morphologic findings, a diagnosis of Pigmented Pilomatrixoma was made.

Figure 1: Cut section of the lesion showing grey white areas and a black focus

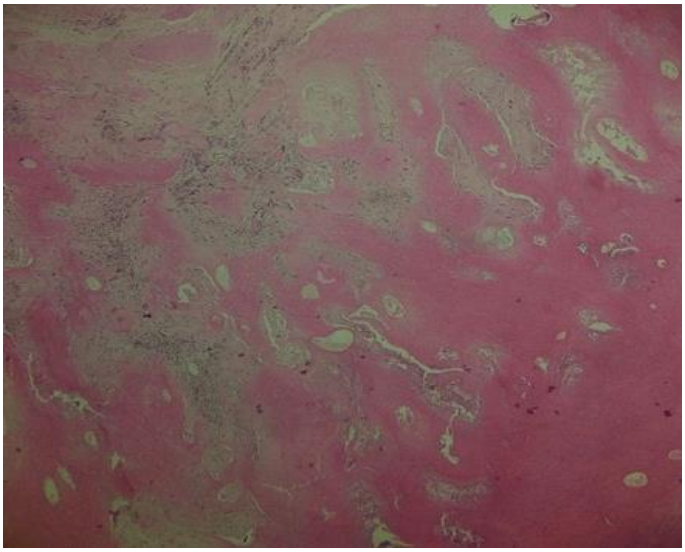

Figure 2: Irregular islands of epithelial cells (H&E; 4X)

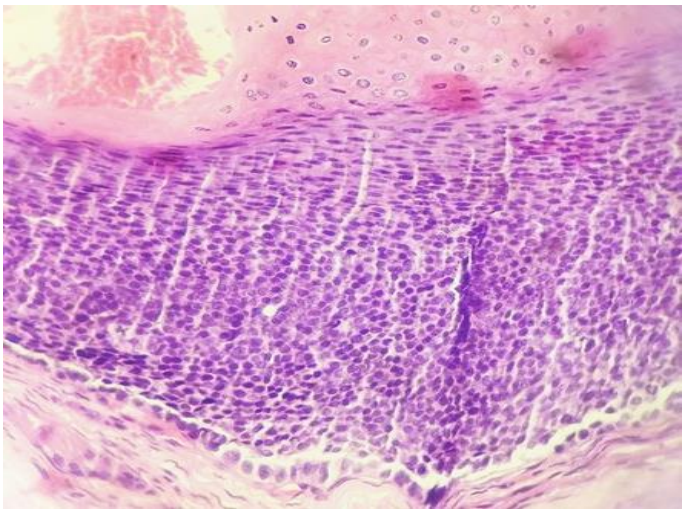

Figure 3: Layer of basophilic cells and shadow cells (H&E; 10X)

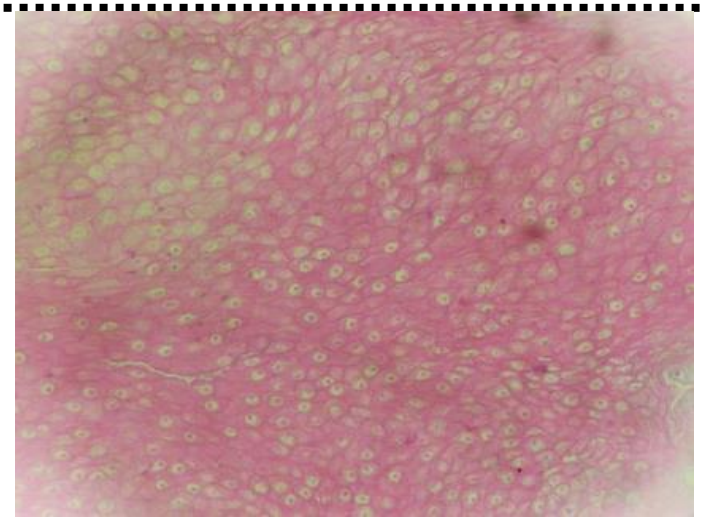

Figure 4: Sheets of shadow cells (H&E; 10X)

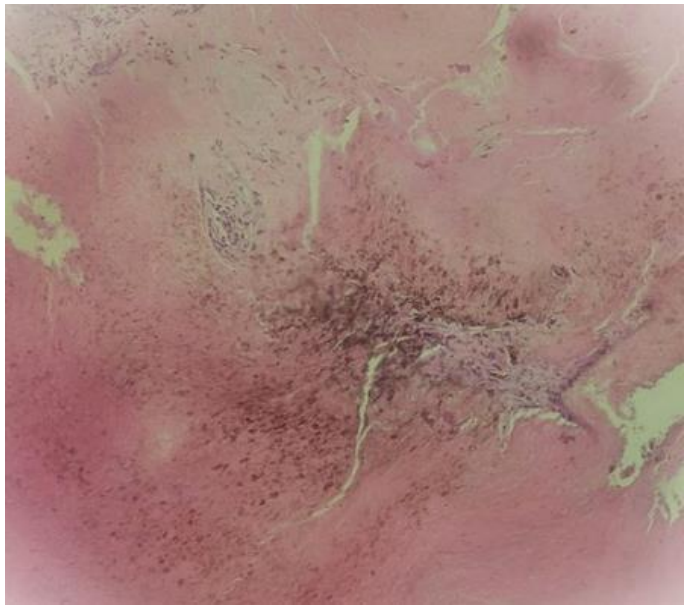

Figure 5: focal areas revealing melanin pigment (H&E; 4X)

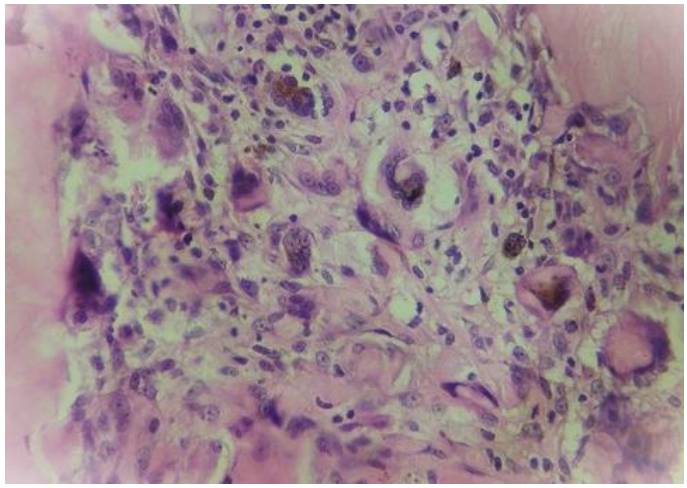

Figure 6: numerous multinucleate giant cells (H&E; 40X)

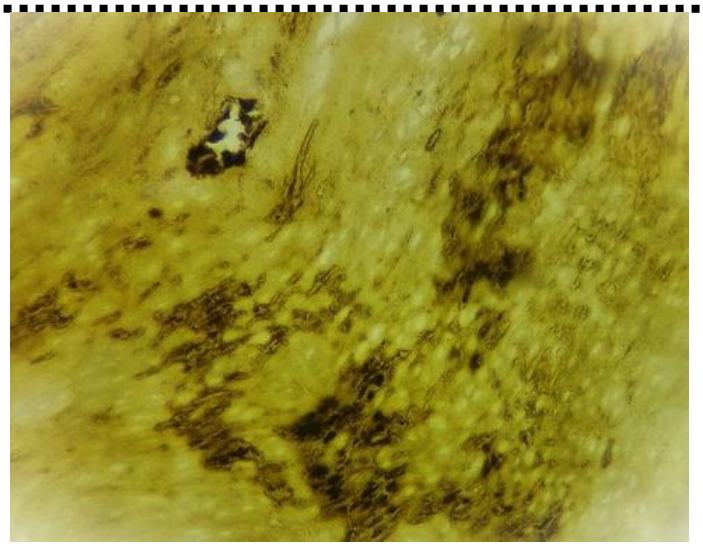

Figure 7: melanin pigment (Fontana-Masson; 40X)

Discussion

Pilomatrixoma is a hamartoma of the hair matrix. It is usually seen in the head and neck region. It can occur in any age but is most commonly seen in children.[4] Patients usually present with a solitary, firm, nontender subcutaneous nodule that has been slowly growing over several months or years. On ultrasonography, pilomatrixomas appear as hypoechoic lesions with inhomogeneous echo structures, well-defined margins, and posterior shadowing.[5]

Histopathological examination is the gold standard for diagnosis. The typical findings of pilomatrixoma is a well-circumscribed dermal or dermal to subcutaneous nodular lesion, characterized by the presence of aggregates of basaloid cells and filled centrally with masses of eosinophilic cornified material (faulty hair matrix) containing shadow cells. The ratio of the basaloid and shadow cells is variable.[6]

The presence of melanin pigment and/or melanocytes in pilomatrixoma is referred to as pigmented pilomatrixoma. Special stains like masons Fontana are helpful to highlight the melanin pigment.[8]S-100 and HMB-45 are the common immunohistochemical markers to confirm the diagnosis.[9] The characteristics features of this lesion are small size, well circumscribed borders and lack of recurrence. These features points towards the benign nature of the lesion. The differential diagnoses of pigmented Pilomatrixoma are metrical carcinoma, basal cell carcinoma with metrical differentiation and malignant melanoma.[7]

The treatment of choice is an excision of the tumor. Recurrence after excision is rare. A prompt understanding of the lesion is of utmost importance as it often gets misdiagnosed despite its frequent occurrence.[11]

Conclusion

Pilomatrixoma is a benign tumour of the hair matrix. It is important for the pathologist to know the key findings of this lesion due to its clinical and histopathologic overlap with other malignant lesions.

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