

Scalp Tumor- A rare case of Pilomatrixoma

Ansilata Marlyn ¹, Faisal Ameer ², Hillol Kanti Pal ³

Abstract

A pilomatrixoma, also known as pilomatricoma, is a slow-growing, usually non-cancerous, skintumor of the hair follicle. It is most common on the face and neck, but it may be on other parts of the body.

A pilomatrixoma is usually a single lump, but occasionally, there may be more than one. Pilomatrixomas are more common in children and young adults than in older adults.

We Present a case of a large Pilomatrixoma on the front of the scalp in a 46-year-old female with a short history of only 6 months. Wide local excision was done under general anesthesia. Closure of the resultant defect done using a rotation scalp flap. Biopsy revealed a Pilomatrixoma, all margins were negative. Stitch lines healed completely with no areas with hairless scalp.

Key Words: Pilomatrixoma, slow growing, skin tumor, scalp, Biopsy

Introduction

Pilomatrixomas are slow growing, benign tumors found beneath the skin. They typically located in the head and neck regions, the most frequent locations are the temporal, frontal, preauricular and periorbital areas. Pilomatrixomas are usually solitary nodules and considered to be ectodermal origin.(1-3)

Malignant transformation of pilomatrixomas are rare.(4-6) The tumor is usually asymptomatic and grows slowly from months to years. We report an interesting case of pilomatrixoma of the scalp.

Case presentation

A 46-year-old woman presented with slowly progressive swelling on the front of the scalp over a period of 6 months. The swelling was painless and no other symptoms were reported. The swelling was about 3.5cm × 4.5cm on the front of scalp on the left frontal area.

Clinical examination revealed smooth surface with well-defined margins, pink with peau de orange surface, mobile side to side and regional lymph nodes were not enlarged (figure 1A and B). Skin punch biopsy of the patient preoperatively, suspected cyclindroma or sebaceoma and no malignancy seen. The patient underwent wide local excision and reconstruction with rotational flap.

¹ Plastic surgery, Thumbay Hospital, Ajman, United Arab Emirates

² Plastic surgery, Thumbay Hospital, Ajman, United Arab Emirates

³ Neurosurgery, Thumbay Hospital, Ajman, United Arab Emirates

Corresponding author

Ansilata Marlyn Anesly
merlyn025@hotmail.com

Under general anesthesia markings were done for excision taking about 1.5cm of normal margin and rotation flap was marked. Infiltration was done with 2% lidocaine and adrenaline diluted to 100%. Incision was given and raney scalp clips were used. Dissection and hemostasis were done with cautery (figure 2A and B). Flap closed using prolene 3-0 cutting suture with simple interrupted sutures.

Postoperatively, the patient had no further complications. The excised specimen was sent for histopathological examination revealed the dermis with multiple irregularly shaped, lobulated islands of cells separated by fibro vascular stroma. Cells are of two types, one is basaloid type round to elongated cells having deeply basophilic nuclei, prominent nucleoli with indistinct cell borders and scanty cytoplasm. Other cell type shows ghost/shadow cells having abundant pale cytoplasm with well-defined borders and central clear area (figure 3). All margins and base of specimen were free of disease.

Discussion

Pilomatrixoma also known as calcifying epithelioma of Malherbe by Malherbe and Chenantais in 1880.(7) Pilomatrixomas are considered benign skin tumors and second most common cutaneous neoplasm among the childhood and youth. Formation of pilomatrixoma occurs as a disturbance of the hair follicle cycle in which limited cytologic differentiation of pilar keratinocytes occurs but failure of mature hair development takes place (8-10).

Differential diagnosis of pilomatrixoma includes dermal cylindroma, sebaceous cyst, dermal cyst, basal carcinoma, pyogenic granuloma and pilomatrix carcinoma.(11) Malignant transformation of pilomatrixoma occurs rarely but should be suspected in cases of repeated occurrences (4-6, 12).

On clinical examination of pilomatrixoma, the lesion presents as painless, dome shaped, solitary, medium to large nodule on the most common regions such as head and neck(5, 13-17) as found in our case report.

The characteristic histopathology appearance of pilomatrixoma consists of basaloid and ghost cells.(18-24).

Complete surgical resection of the tumor is the standard treatment of choice for pilomatrixoma. Rotation flap a simple flap closure enables a proper excision of the lesion with negative margins and good cosmetic outcome. It helps to reconstruct the defect with a same tissue histology and gives an aesthetic result. Local recurrence may occur if the excision is incomplete.(9, 10, 25)

Conclusion

Pilomatrixoma, a rare painless benign skin neoplasm can mimic as different benign cutaneous tumors but a proper diagnosis is the key to differentiate from other soft tissue tumors. Reconstruction of the scalp is quite challenging because of the anatomy and skeleton of scalp. Rotation flaps are the most common reconstruction method for scalp defects. Surgical intervention is the prevention of cure for such diagnosis.

Acknowledgment

I thank the co-authors for their support and contribution.

Conflict of interest:

There is no conflict of interest of any of the authors. Funding Sources

The authors did not receive any funding



Figure 1(A, B): Preoperative frontal view of the patient showing solitary swelling on the left frontal area of the scalp

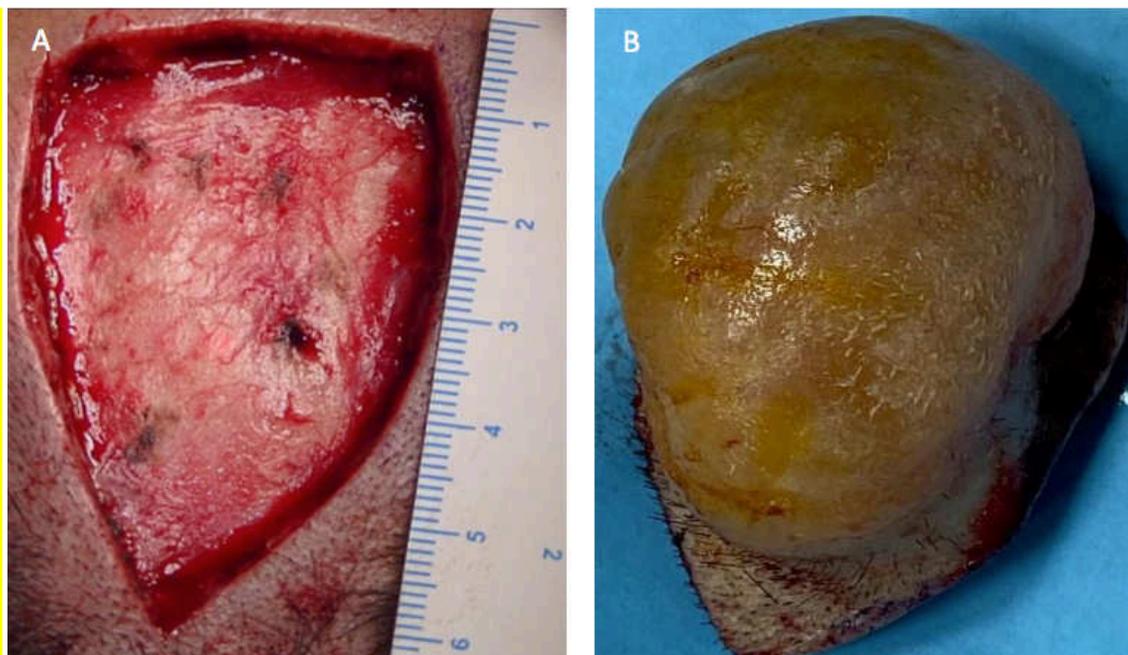


Figure 2 (A): Resultant scalp defect measuring 6cm×6cm×4cm (B) Excised gross specimen

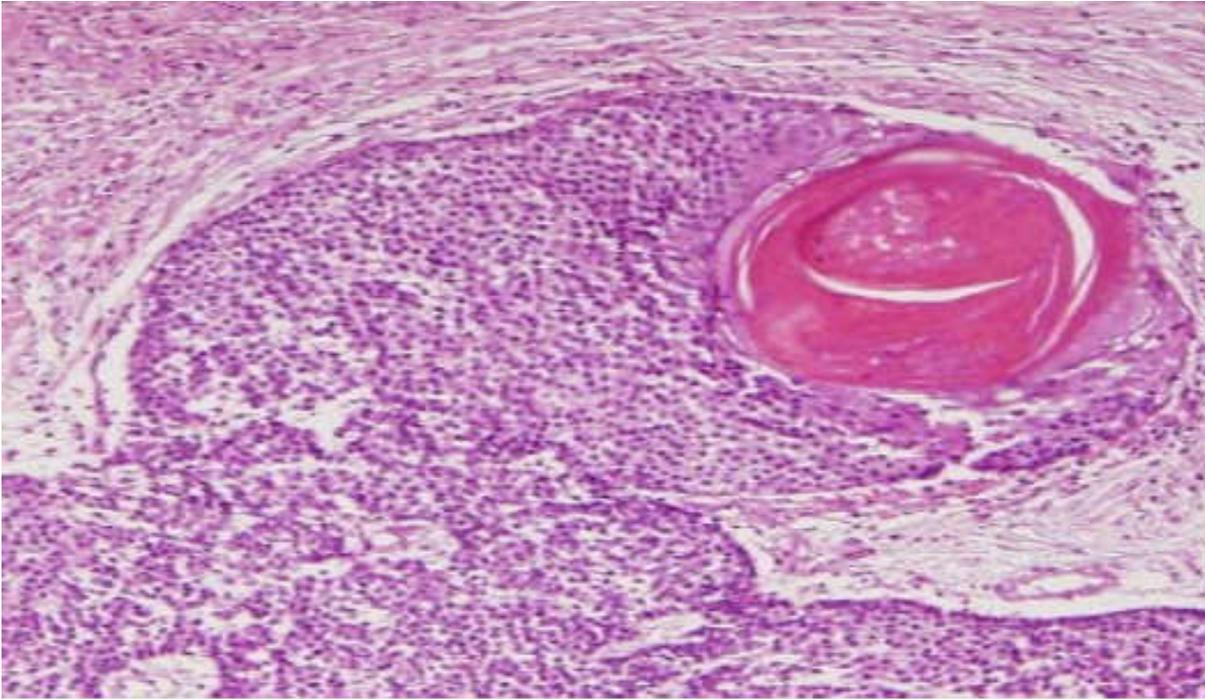


Figure 3: Histopathology of the specimen reveals features consistent with Pilomatricoma

References

1. Van der Horn G, Rutten MJ. Pilomatrixoma. *JBR-BTR*. 2011;94(3):142-3.
2. Barbhuiya JN, Datta PK, Basak P, Banerjee PP. Pilomatrixoma. *Indian J Dermatol Venereol Leprol*. 1996; 62(5):318-9.
3. Lineaweaver W. Pilomatrixoma. *Plast Reconstr Surg*. 1987;79(6):1005-6.
4. Carbonaro V, Pietribiasi F, Penno A. Malignant pilomatrixoma of the face. *Acta Otorhinolaryngol Ital*. 1997; 17(6):444-7.
5. Monchy D, McCarthy SW, Dubourdieu D. Malignant pilomatrixoma of the scalp. *Pathology*. 1995;27(2):201-3.
6. Veliath AJ, Reddy KS, Gomathinayagam D. Malignant pilomatrixoma. Report of a case. *Acta Radiol Oncol*. 1984; 23 (6):429-31.
7. A M, J C. Note sur l' epitheliomacalcifie des glandes sebacees. *Prog Med*. 1880(8):826-8.
8. Jones CD, Ho W, Robertson BF, Gunn E, Morley S. Pilomatrixoma: A Comprehensive Review of the Literature. *Am J Dermatopathol*. 2018;40(9):631-41.
9. Guinot-Moya R, Valmaseda-Castellon E, Berini-Aytes L, Gay-Escoda C. Pilomatrixoma. Review of 205 cases. *Med Oral Patol Oral Cir Bucal*. 2011;16(4):e552-5.
10. Pirouzmanesh A, Reinisch JF, Gonzalez-Gomez I, Smith EM, Meara JG. Pilomatrixoma: a review of 346 cases. *Plast Reconstr Surg*. 2003;112(7):1784-9.
11. Grass SK, Deichmuller CM, Brandis A, Welkoborsky HJ. Pilomatrixoma - an important differential diagnosis of facial masses. *Laryngorhinootologie*. 2015;94(1):29-33.
12. Tawfiq N, Lakhrib N, Mharech A, Benchakroun N, Benider A, Benkirane A, et al. Malignant pilomatrixoma of head and neck. A case report. *Cancer Radiother*. 2010;14(3):198-201.
13. Sirakaya M, Vydianath S. Pilomatrixoma of the head and neck: Typical presentation of a rare lesion. *Ultrasound*. 2020;28(1):51-3.
14. Mendes Neto JA, Raposo RM, Segalla DK, Leonhardt FD. Pilomatrixoma in the head and neck. *Braz J Otorhinolaryngol*. 2009;75(4):618.
15. Okur E, Yildirim I, Bakaris S, Okur N, Kilic MA. Pilomatrixoma of the head and neck in six cases. *Kulak Burun Bogaz Ihtis Derg*. 2005;14(5-6):121-6.
16. Chuang CC, Lin HC. Pilomatrixoma of the head and neck. *J Chin Med Assoc*. 2004;67(12):633- 6.
17. Hawkins DB, Chen WT. Pilomatrixoma of the head and neck in children. *Int J Pediatr Otorhinolaryngol*. 1985;8(3):215-23.
18. Rumayor A, Carlos R, Kirsch HM, de Andrade BA, Romanach MJ, de Almeida OP. Ghost cells in pilomatrixoma, craniopharyngioma, and calcifying cystic odontogenic tumor: histological, immunohistochemical, and ultrastructural study. *J Oral Pathol Med*. 2015;44(4):284-90.
19. Nigam JS, Singh S. Fine-needle aspiration cytology of pilomatrixoma: A short series of three cases. *Cytojournal*. 2014;11:30.
20. Wang J, Cobb CJ, Martin SE, Venegas R, Wu N, Greaves TS. Pilomatrixoma: clinicopathologic study of 51 cases with emphasis on cytologic features. *Diagn Cytopathol*. 2002;27(3):167-72.
21. Lemos MM, Kindblom LG, Meis-Kindblom JM, Ryd W, Willen H. Fine-needle aspiration features of pilomatrixoma. *Cancer*. 2001;93(4):252-6.
22. Chen KT. Fine-needle aspiration of pilomatrixoma. *Diagn Cytopathol*. 1995;13(3):275-6.
23. Ma KF, Tsui MS, Chan SK. Fine needle aspiration diagnosis of pilomatrixoma. A monomorphic population of basaloid cells with squamous differentiation not to be mistaken for carcinoma. *Acta Cytol*. 1991;35(5):570-4.
24. Shoji A, Hamada T. Histologic variation of a pilomatrixoma. *Arch Dermatol*. 1983;119(10):793- 4.
25. Gay Escoda C, Berini Aytes L, Malet Hernandez D, Garcia Jimenez A. Pilomatrixoma. Review of 179 cases. *Rev*