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Case Report

Nodular Hidradenoma of the Scalp: A Rare Case Report

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Abstract

Nodular hidradenoma is a rare benign tumour originating from eccrine or apocrine sweat glands. While documented cases exist in the medical literature, nodular hidradenoma of the scalp is relatively uncommon. We present a rare case of nodular hidradenoma located on the scalp to contribute to the limited knowledge regarding its clinical presentation, diagnosis, management and outcomes in this specific anatomical site.

We present a case of a 45-year-old female with a nodular hidradenoma of the scalp. The patient complained of a slow growing swelling, itchy, slightly tender scalp lump over 9 years period.

Clinical examination revealed a well-defined, firm nodule measuring 3.5 x 3 cms in diameter with 2 cms wide stalk. The patient underwent complete surgical excision, resulting in a favourable outcome for regular follow up to one year.

Introduction

Nodular hidradenoma, a rare benign neoplasm arising from eccrine or apocrine sweat glands, typically presents as a slow-growing subcutaneous nodule. Its occurrence on the scalp is even less common.

This case report discusses the clinical presentation, diagnostic evaluation, treatment approach, and

outcomes of a patient with nodular hidradenoma of the scalp, contributing to the limited literature on this entity.

Case presentation

Patient information

- Age: 45 years
- Gender: Female
- Past Medical History: Unremarkable
- No significant comorbidities
- Family History: Father had history of carcinoma of stomach

Clinical presentation

- Chief Complaint: Slowly growing, itchy, slightly tender scalp lump located on the occipital region of scalp.
- Duration of Symptoms: 9 years
- Physical Examination Findings:

A well-defined, lobulated, firm, pedunculated fleshy mass, with minimal tenderness, located at the occipital scalp region.

Reported sizes start at 0.9 cm diameter,[1] with many tumours in the 1.5- to 4.0-cms diameter range. The largest size reported as of 2006 was a 15 x 7.8 x 5-cms- diameter postauricular mass [2]. Our patient presented with 3.5 x 3 cms in diameter with 2 cms wide stalk in scalp with a clinically benign appearance.

The mass was freely mobile, non-compressible and non-pulsatile (Figures 1 & 2).

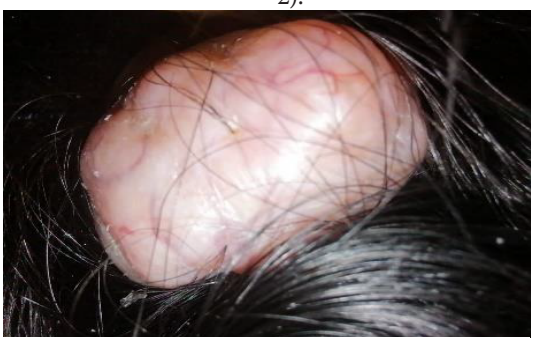

Figure 1. *Patient at the time of present*

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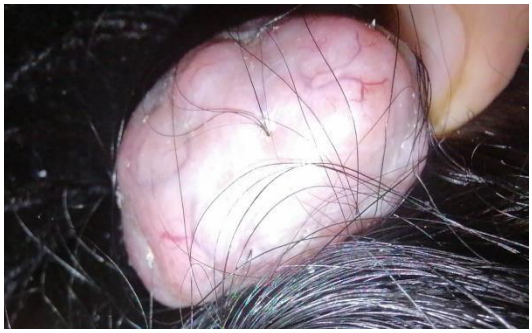

Figure 2. *Patient at the time of present*

Regional lymphadenopathy was absent.

Our differential diagnosis were sebaceous cyst, papilloma, capillary Hemangioma, Pyogenic granuloma, and keratoacanthomas.

Diagnostic methods

- **Imaging:** No evidence of any radiological scan performed.
- **Biopsy:**

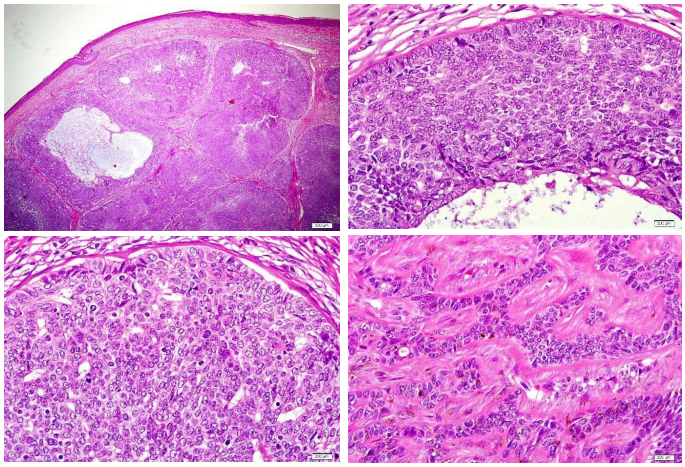

Figure 3. *Histopathology: A sample was processed in to 6 paraffine blocks, and histological analysis showed features consistent with nodular hidradenoma, characterized by variably sized nests and nodules of epithelial cells within the upper or mid dermis, typically with no overlying connection to the epidermis. Nests of basaloid cells with peripheral palisading, cords and reticular growth too. some solid nests have central cystic to edematous stroma, thick hyalinization around cords and nests. Hyperchromatic nuclei with few mitoses, few pigmented cells. No keratin production or horn cysts. No stromal retraction. Surgical margin 1mm away from growth. (Stain H&E)*

Treatment

Surgical intervention

Surgical intervention performed under Local anaesthetic of 4ml 2% lidocaine was administered at the base of the tumour. Elliptical excision with wide margins was performed sharply using scalpel, lesion removed in toto. After haemostasis with bipolar electrocautery, subcutaneous tissue and skin were sutured separately without tension using 2-0 proline ,mattress sutures done.

Medications

No medications were prescribed pre or postoperatively.

Follow-up

Post-operative course

The post-operative course was uneventful, with no complications reported.

Outcome

One-year follow-up is required to ensure no signs of recurrence, and the patient remained symptom-free.

Discussion

Literature review

- Clear cell hidradenoma or nodulocystic hidradenoma or acrospiroma are histologically distinct relatively rare tumours of sweat gland duct origin, found mainly in adults with a female preponderance[3].
- It affects all ages, most commonly females in fourth to eighth decades of life. [4].
- A few reports are available in literature regarding presence of this tumour on occipital region [3]. It typically presents as a painless nodule, consistent with our case.
- Despite transforming into malignant neoplasm only in < 1% of cases, its histological characteristics may resemble those of malignant neoplasms [5]. Although the risk of malignant transformation is very low, recurrence, malignant transformation and metastatic spread have all been described in association with this tumour [6].
- HA (Hidradenoma) can be difficult to distinguish histologically from HAC (Hidradenocarcinoma). The difficulty, if not impossible , to distinguishing HA from HAC is well described in the historical literature [7]. In a 1954 article,[7] Keasbey describes a "malignant hidradenoma" appearing pathologically similar to the benign variant "except for the presence of isolated nests of tumour cells wandering off to considerable distances in the surrounding tissue."
- At times, lesions initially diagnosed as histologically benign have been retrospectively
- classified as malignant after histopathologic re-examination of initial biopsies, a situation often prompted by an unfortunate recurrence of an aggressive or metastatic tumour [2].
- This situation could arise because indications of the malignant character of a HAC might be detectable in only a limited portion of the pathological sample. Therefore, it is essential to be cautious about potential sampling errors. Additionally, there is the troubling presence of reports citing malignant transformation from histologically benign- appearing primary lesions [8,9]. Histology does not always predict clinical behaviour of these tumours [10].
- Surgical excision is the preferred treatment for HA (Hidradenoma) for two significant reasons. Firstly, it reduces the likelihood of recurrence. Given a recurrence rate of approximately 10%, this is significant [11,12]. Secondly, one can be assured that the tumour is truly a HA and not a HAC lacking cytologic atypia.

Histopathology of HA (Hidradenoma)

- The majority of HAs typically consist of two primary cell types closely linked, although variations in cell composition have been observed.

- Polygonal shape with granular cytoplasm and eosinophilic appearance characterizes squamous cells, which have small, rounded nuclei [10]. In some instances, these cells may appear dark and are described as having a "basophilic" appearance [13,14,15]. They may also appear fusiform with elongated nuclei [13].
- The second type of cells are clear cells, which have distinctly visible cell membranes and dark, frequently marginated nuclei. Clear cells may have an oval bubble appearance or appear more polyhedral. They contain glycogen, as most of the cells in this tumour often do, but to a greater extent [11]. In addition, periodic acid-Schiff–positive diastase-resistant material consistent with mucin has been observed within luminal spaces, on the surface of clear cells, and in cells lining ductal structures [11].

Result

The management of rare cases is not well defined. In our case, she was only treated with a wide local excision, and patient for close follow up for 1 year duration to ensure no further growth after excision.

Conclusion

Most authors have concluded that early wide surgical excision of the tumour is the treatment of choice. The efficiency of adjuvant therapy generally has not been established yet.

Comparison to previous cases

Our case is unique due to the location of the tumour, i.e., on the scalp, which is less commonly reported. However, the clinical course and management align with existing literatures.

Challenges and lessons learned

No significant challenges were encountered in this case, and it reinforces the importance of complete surgical excision for better patient outcomes.

Conclusion

Nodular hidradenoma of the scalp is a rare and benign tumour. It can be difficult to distinguish histologically from HAC for that Surgical excision with clear margins remains the primary treatment modality, resulting in favourable outcomes and a low risk of recurrence.

Ethical approval

Written informed consent was obtained from the patient for publication of this case report and accompanying images. .

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The authors declared that this study has received no financial support.

Declaration of competing interest

Authors of this article have no conflict or competing interests. All the authors have approved the final version of this manuscript..

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