



A STUDY OF CLINICOMORPHOLOGICAL ANALYSIS OF INTERESTING SCALP LESIONS

Pathology

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ABSTRACT

Introduction: Scalp lesions can be classified based on their origin as congenital, traumatic, inflammatory, or neoplastic. Fortunately, the majority of scalp lesions are benign, with cystic lesions comprising over 50% of all benign scalp lesions. **Aims And Objectives:** To evaluate the various histopathological and cytomorphological features of lesions presenting as scalp swellings. **Materials And Methods** -The present study reviewed 15 cases of excised scalp lesions performed in Department of pathology at Mahadevappa rampure medical college and Basaveshwar teaching and general hospital, Kalaburagi, between december 2020-june 2023. Clinical data was collected from records and histopathological examination of the excised specimens was conducted using standard processing technique. **Results-** A total of 15 cases of scalp lesions were analysed, patients ranging from 10 to 70 years. With male to female ratio was 1:2 in this study. 12 cases (80%) are benign and 3 cases (20%) are malignant lesions. Pilar cyst was most common benign lesion. Malignant lesions are, dermatofibrosarcoma protuberance, adenoid cystic variant of basal cell carcinoma, metastasis from follicular carcinoma thyroid respectively. **Conclusion:** The scalp is often overlooked and is a common site for tumors. Benign tumors appear more frequently here. Maintaining a high level of clinical suspicion is crucial for early detection and treatment of malignancies.

KEYWORDS

Scalp Lesion, pilar cyst, Cerebriform intradermal nevus, Dermatofibrosarcoma protuberans.

INTRODUCTION

Patients with scalp lesions can have a range of underlying pathologies. Scalp lesions can be classified based on their origin as congenital, traumatic, inflammatory, or neoplastic. Fortunately, the majority of scalp lesions are benign, with cystic lesions comprising over 50% of all benign scalp lesions. Common types of these cystic lesions include trichilemmal cysts (pilar cysts), sebaceoma, epidermoid cysts, dermoid cysts, and teratoid cysts.¹

Scalp tumors have a wide range of clinical presentations and often possess unique characteristics that differentiate them from similar tumors found on other parts of the skin. The site-specific nature of these tumors means that they may require different diagnostic and therapeutic approaches compared to tumors in other areas of the body. Scalp swellings are identified as palpable masses. Approximately 5% of cases show distant metastasis to scalp.²

Half of the patients with cutaneous metastasis die within the first 6 months after the diagnosis.³

The correct interpretation of a scalp mass is crucial because it can significantly reduce both mortality and morbidity. Proper diagnosis helps physicians choose the most appropriate treatment strategy, whether that involves surgical intervention or a nonsurgical approach.⁴

MATERIALS AND METHOD.

Place of study:

Mahadevappa rampure medical college and Basaveshwar teaching and general hospital, Kalaburagi.

Duration Of Study: 2.5 years from December 2020-June 2023

Sample Collection:

All specimens were received in 10% formalin and each patient's clinical, radiological, FNAC and USG findings were obtained. The specimen were then subjected to gross description and adequate sampling by appropriate tissue section. The microscopic features were then studied with routine Hematoxylin and Eosin stained sections. Special stains and Immunohistochemical studies were done as and when required.

RESULTS

Table-1: Age Wise Distribution Of Scalp Lesions

Age	Number of cases	Percentage (%)
10-20 years	3	20
21 -30 years	5	33.3
31-40 years	1	6.7
41-50 years	2	13.3
51-60 years	-	-
61-70 years	4	26.7
Total	15	100

A total of 15 cases of the different scalp lesions were analysed. Age of the patients ranging from 10 to 70 years. The highest prevalence of these lesions were seen in the age group of 21-30 years seen in 5 cases (33.3 %), followed by 61-70 years in 4 cases (26.7%).

In the present study sex wise distribution shows female preponderance of cases 10 (66.7 %) and male respondents were 05 (33.3%). Sex ratio male to female was 1:2 in this study.

In our study among total of 15 cases 12 cases are benign lesions accounting for (80%) and 3 cases are malignant lesions accounting for (20%).

Table-2: Benign Scalp Lesions

Bening lesions	No.of cases	Percentage(%)
Pilar cyst	04	33.3
Proliferative trichilemmal tumour	02	16.6
Cerebriform intradermal nevus	01	8.3
Intradermal naevus	01	8.3
Nevus sebaceous of Jadassohn	01	8.3
Seborrheic keratosis	01	8.3
Blue nevus	01	8.3
Lipoma	01	8.3
Total	12	100 (%)

Among 12 benign lesions maximum cases are pilar cyst 4 cases(33.3%) followed by Proliferative trichilemmal tumour 2 cases(16.6%). We reported a rare case of cerebriform intradermal nevus (Fig-1).

Table-3: Malignant Scalp Lesions.

Malignant lesion	No.of cases	Percentage(%)
Dermatofibrosarcoma protuberance	01	33.3
Adenoid cystic variant of Basal cell carcinoma	01	33.3
Metastasis from follicular carcinoma thyroid	01	33.3
Total	03	100 %

Among total 15 cases 3 cases are malignant, Dermatofibrosarcoma protuberance 01 case (33.3%) (Fig-2), Adenoid cystic variant of Basal cell carcinoma 01 case (33.3%), Metastasis from follicular carcinoma thyroid 01 case (33.3%) (Fig-3) respectively.



Figure 1- Cerebriform intradermal nevus-Clinically bosselated irregular swelling with cerebriform folds over left side of the scalp. On microscopy H&E(10X)-Nevus cells arranged in multiple nests and cords in upper dermis with entrapped adnexal structures.

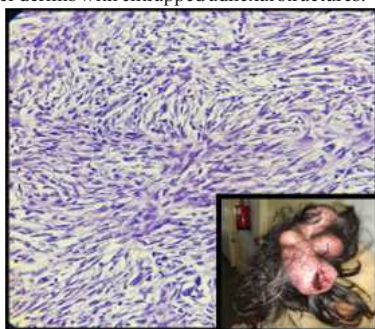


Figure 2- Dermatofibrosarcoma protuberans- Clinically large nodular swelling over scalp with areas of ulceration. On microscopy H & E(10X):Spindle shaped tumour cells arranged in storiform pattern. CD 34: Strong positive and Ki 67 index: 0-1 % was also noted.

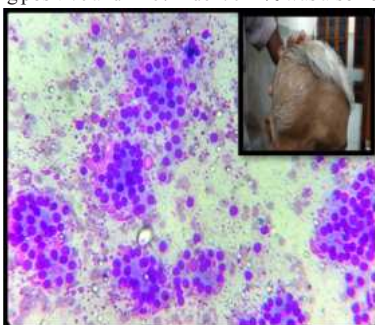


Figure 3-Metastasis from follicular carcinoma of thyroid. Clinically,presented with swelling over scalp measuring 8x7cm. On microscopy GIEMSA (40x)-Micro acinar clusters with a central lumen (drop of colloid).

DISCUSSION

Scalp tumors are characterized by a heterogeneous clinical spectrum. The anatomical features are defined by its layered structure (comprising the epidermis, dermis, subcutis, epicranial aponeurosis, along with nearby periosteum and skull) and the densely packed adnexal structures (sebaceous glands, hair follicles, eccrine and apocrine glands) which are enveloped by an intricate network of blood

vessels and lymphatics.²

Scalp tumors are defined by a notably wide and varied clinical range. They often display unique features specific to their location, which differentiate them from similar tumors found on others parts of the skin.³

Though typically benign, diagnosing and treating these lesions can be quite challenging due to factors like reduced visibility (leading to delayed detection), anatomical complexities, exposure to harmful external agents, unique histological traits, and the often advanced age of patients.³

A total of 15 cases of the different scalp lesions were analyzed. Age of the patients ranging from 10 to 70 years (Table-1), which is in discordance with a study conducted by Spitz et al⁶ in which the age group ranged from 29 to 91 yrs.

In the present study, sex ratio male to female is 1:2, whereas 1.1:1 was reported by HJ Carson et al⁷ in their study and 2:1 reported by Spitz et al.⁶

In the present study we divided the scalp lesions into benign and malignant lesions.

The benign lesions were the commonest with majority 12 cases (80%) which is similar with a study conducted by Hegde S et al³ 24 cases (83%).

Benign lesions being Pilar cyst, proliferative trichilemmal tumour, cerebriform intradermal nevus, intradermal naevus, nevus sebaceous of jadassohn, seborrheic keratosis, blue nevus and lipoma(Table-2). Pilar cyst was the most common benign lesion in our case which is discordant with Hegde S et al³ where lipoma is most common. Keratinous cyst was the most common benign lesion in Annapurna V. Mane et al.⁵ This is in concordance with our study. Similarly Hingway SR et al⁸ also reported pilar cysts, as the commonest lesions diagnosed among scalp lesions.

In our study among total 15 cases 3 cases are malignant (Table 3), Dermatofibrosarcoma protuberance 01 case (33.3%), Adenoid cystic variant of Basal cell carcinoma 01 case (33.3%), Metastasis from follicular carcinoma thyroid 01 case (33.3%) respectively. Our study was concordant with the study by Hingway et al, which showed an association of malignancy of head and neck region with scalp metastasis, the follicular thyroid carcinoma. The studies carried out by Leena et al⁹ and Adu EJK et al.¹⁰ Another study by Manchanda et al¹¹ found that basal cell carcinoma cases.

CONCLUSION

The scalp is often overlooked and is a common site for tumors. Benign tumors appear more frequently here. Maintaining a high level of clinical suspicion is crucial for early detection and treatment of malignancies. In present study, the most common lesion on scalp was pilar cyst and proliferative trichilemmal tumour among benign lesions. Rare lesions encountered in this study were Cerebriform intradermal nevus, Dermatofibrosarcoma protuberans and metastasis from follicular carcinoma of thyroid.

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