



## PROLIFERATING TRICHILEMMAL CYSTS OF THE SCALP

\*Satyanarayana Rao Sarangam Venkata<sup>1</sup>, S Krishna Rao<sup>2</sup>, Anvesh Dharani Kota<sup>2</sup>

<sup>1</sup>Associate Professor, Dept of Surgery, Katuri Medical Collee Andhospital, Guntur-5222019.

Andhra Pradesh, India.

<sup>2</sup>P.G, Dept of Surgery, Katuri Medical Collee Andhospital, Guntur-5222019.

Article Received on 31/04/2015

Article Revised on 21/05/2015

Article Accepted on 12/06/2015

**\*Correspondence for**

**Author**

**Dr. Satyanarayana Rao  
Sarangam Venkata**

Associate Professor, Dept  
of Surgery, Katuri Medical  
Collee Andhospital,  
Guntur-5222019. Andhra  
Pradesh, India.

### ABSTRACT

Proliferating trichilemmal cysts also known as 'pilar tumors' are slow growing lobulated masses, commonly found on scalp of elderly woman. We report a case of 35year old women with 10 years history of multiple slow growing lesions on scalp. She developed pain and ulceration over the swellings since 1 month, which prompted surgical consultation. CT scan of the head revealed multiple, subcutaneous, cystic masses without bony indentations. Excisional biopsy confirmed diagnosis.

**KEY WORDS** Isthmus catagen cyst, Pilar tumor, Turban tumor, Wen.

### INTRODUCTION

Proliferating trichilemmal cysts are slow growing, lobulated masses found in elderly women. They occur preferentially in areas with dense hair follicle concentration, therefore 90% occur on the scalp. They may be seen infrequently on the face, neck, trunk and extremities.<sup>[1,2,3]</sup> They are solitary in 30% cases and multiple in 70% of subjects.<sup>[4]</sup> Trichilemmal cysts may be red, swollen and tender if they have ruptured or become infected.

Trichilemmal cysts or keratin filled cysts with a wall resembling the external roof sheath of a hair follicle. These cysts affect 5-10% of population, with a female predominance and can be inherited in an autosomal dominant pattern of inheritance.<sup>[5]</sup> The cysts can undergo transformation into proliferating trichilemmal cysts when tumor like proliferation of cells arises from epithelial lined wall. Proliferating trichilemmal cysts usually result in large, lobulated scalp masses. They are most often benign and can recur after incomplete excision. In some cases malignant degeneration occurs resulting in direct invasion of adjacent tissues

and distant metastasis.<sup>[5]</sup> Other clinical sequelae occurring in these patients include superimposed infection and pressure necrosis of adjacent tissues secondary to the growth of cystic masses.<sup>[5]</sup> Rapid growth is unusual and may be a sign of infection or malignancy. Other suspicious features include non scalp location, size larger than 5cms and infiltrative growth pattern.

### CASE REPORT

A 35-year old lady presented with a 10 year history of multiple, slowly growing lesions on the occipital region of scalp. Initially the patient noticed a small, single swelling over the scalp which gradually increased in size and attained the present size of 4 x 6 cms. Subsequently, multiple small swellings appeared around the previous swelling. It is then associated with pain and ulceration since 1 month, which prompted her for surgical consultation. On physical examination, it is seen that the patients scalp was studded with multiple, mobile swellings ranging from the size of 2cms to 6cms. The swellings mostly occupied the occiput and parietal regions of the scalp and are variable in consistency from firm to cystic masses and were covered with hair. Clinically the swellings appeared to be at subcutaneous level. There was no cervical or parotid lymphadenopathy. A CT scan of the head revealed multiple, subcutaneous, cystic masses without any bony involvement.



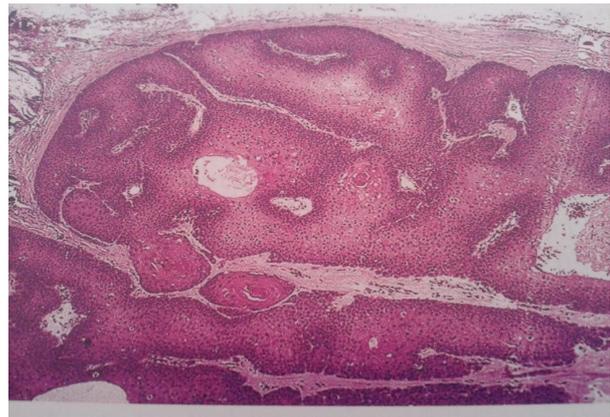
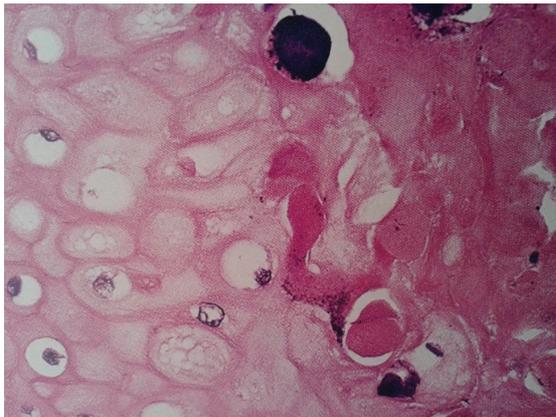
**“Fig.1”:** Multiple pilar cyst (trichilemmal cyst) seen over this scalp of the patient

Since the patient was anemic, 2 units of blood transfusion was given before surgery. Other relevant blood investigations were within normal limits. Under general anaesthesia, wide excision of the cysts over the scalp was done and the specimen was sent for histopathological examination. The scalp wound was approximated after mobilization of the skin. The post

operative period was uneventful and patient was discharged on 10<sup>th</sup> postoperative day after removal of sutures and advised for regular follow up. Histopathological examination of the specimen revealed proliferating trichilemmal cysts. During the post operative follow ups, it is seen that the wound has healed well and patient was clinically normal.



**”Fig 2”**: showing the specimen of trichilemmal cysts of the scalp after surgery



**”Fig 3”**: HP section of the specimen showing perforating trichilemmal cysts of the scalp



**”Fig 4”**: Post operative photograph of the patient following surgery

#### DISCUSSION & CONCLUSION

Trichilemmal cysts are common intradermal or subcutaneous cysts occurring in 5-10% of population. It is also known as wen, pilar cyst or isthmus-catagen cyst. It is a common cyst arising from a hair follicle and 90% occur on the scalp. It may be clinically indistinguishable from the epidermoid or epidermal inclusion cyst. These are thought to originate via budding of the external root sheath of the hair follicle, secondary to a genetically determined structural aberration. In 2% of trichilemmal cysts, single or multiple foci of proliferating cells lead to tumors called proliferating trichilemmal cysts. These cysts may present as slow growing nodules and gradually enlarge upto 25cms in diameter, exophytic nodules that occasionally ulcerate.<sup>[6]</sup> Although biologically benign tumors, they may be locally aggressive. Recurrences and metastasis have been observed with rare malignant transformation. They may be sporadic or autosomal dominant inherited. Some proliferating trichilemmal cysts with ulceration may be misdiagnosed as squamous cell carcinoma, which should be carefully ruled out.

Histologically, trichilemmal cysts are characterized by the absence of intercellular bridges between epithelial cells lining the cyst wall. Peripheral layers demonstrate a palisading arrangement, whereas cells close to cyst cavity are swollen and filled with pale cytoplasm. The cyst cavity contains amorphous, eosinophilic keratin. Proliferating trichilemmal cysts are characterized by regions of trichilemmal keratinization or focal epidermal keratinization. The cyst wall shows lobulation with piling up of squamous epithelium. The diagnosis of malignant proliferating trichilemmal tumor usually require extensive cellular atypia and invasion of adjacent structures.<sup>[6]</sup> It has been speculated that a proliferating trichilemmal cyst is a variant of squamous cell carcinoma, however this belief is not widely accepted.<sup>[7,8]</sup>

Simple trichilemmal cysts are often easily enucleated, in contrast to proliferating type which require wide local excision to prevent recurrence. Because of the malignant potential of the proliferating trichilemmal cyst, management includes wide local excision and continued long term surveillance. Recurrence of pilar tumor is not common after complete excision. Malignant transformation of the epithelial lining into squamous cell carcinoma or spindle cell carcinoma is rare. Local invasion, lymphatic and hematogenous metastatic spread has been reported in some cases in the literature.<sup>[9]</sup>

## CONCLUSION

Proliferating trichilemmal cyst is a rare entity and treatment is mainly based on surgery. In our case, wide local excision of multiple cysts over the scalp with primary closure after

mobilization of the skin has yielded good results. No recurrence or complications were encountered during the follow up period of 6 months.

**CONFLICTS OF INTEREST** None

**FINANCIAL SUPPORTS** None

## REFERENCES

1. Thomas VD, Snaveley NR, Lee KK, Swanson NA. Benign epithelial tumors, Hamartomas and Hyperplasias. In: Goldsmith LA, Gilchrist BA, Paller AS, Leffell DJ, Wolff K, eds. *Fitzpatrick's Dermatology in General Medicine*. 8<sup>th</sup> ed. New York, NY: Mc Graw-Hill; 2012; 1334.
2. James WD, Berger TG, Elston DM. *Andrews' Diseases of the skin: Clinical Dermatology* 11<sup>th</sup> ed. Philadelphia, PA: Saunders Elsevier; 2011; 668-669.
3. Melikoglu C, Eren F, Keklik B, Aslan C, Sutcu M, Zeynep Tarini E. Trichilemmal cyst of the third fingertip: a case report. *Hand Surg*. 2014; 19(1): 131-133. [Medline].
4. Kirkham N. Tumors and Cysts of the epidermis. In: Elder DE, Elenitsas R, Johnson BL, Murphy GF, Xu X, eds. *Lever's Histopathology of the skin*. 10<sup>th</sup> ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2009; 801-803.
5. MacKie RM. Tumors of the skin. In: Rook A, Wilkinson DS, Ebling FJB, et al, eds. *Textbook of Dermatology Vol 3*, 4<sup>th</sup> ed. St.Louis: Blackwell Mosby Book Distributors; 1986; 2405-2406.
6. Elder D, Elenitsas R, Ragsdale B. Tumors of the epidermal appendages. In: Elder D, Elenitsas R, Jaworsky C, et al, eds. *Lever's Histopathology of the skin*. 10<sup>th</sup> ed. Philadelphia, PA: Lippincott-Raven; 1997; 749-799.
7. Noto G. Benign proliferating trichilemmal tumor; does it really exist? *Histopathology* 1999; 35: 386-387. [Medline].
8. Lopez-Rios F, Rodriguez-Peralto JL, Aguilar A, et al. Proliferating trichilemmal cyst with focal invasion: report o a case and a review of the literature. *Am J Dermatopathol* 2000; 22: 183-187.
9. Val-Bernal JF, Garijo MF, Fernandez F. Malignant proliferating trichilemmal tumor. *Am J Dermatopathol* 1998; 20: 433-434.