



Case Report

# Mohs micrographic surgery for eccrine poroma

Sukhdeep Singh<sup>1</sup>, Debajyoti Chatterjee<sup>2</sup>, Deepesh P. Lad<sup>3</sup>, Sunil Dogra<sup>1</sup>, Keshavamurthy Vinay<sup>1</sup>

Departments of <sup>1</sup>Dermatology, Venereology and Leprology, <sup>2</sup>Histopathology, and <sup>3</sup>Clinical Hematology and Medical Oncology, Post Graduate Institute of Medical Education and Research, Chandigarh, India.

**\*Corresponding author:**

Keshavamurthy Vinay,  
Department of Dermatology,  
Venereology and Leprology,  
Post Graduate Institute of  
Medical Education and  
Research, Chandigarh, India.

[vinay.keshavamurthy@gmail.com](mailto:vinay.keshavamurthy@gmail.com)

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## ABSTRACT

Eccrine poroma (EP) is a benign adnexal tumor that typically presents as a solitary, slow-growing lesion on acral sites, but recurrence and immunosuppression may increase the risk of malignant transformation. We report a recurrent EP in a 28-year-old man with chronic myeloid leukemia post-stem cell transplant on long-term immunosuppression. The patient presented with a moist, sessile, exophytic nodule on the thigh that had recurred six months after simple excision. Dermoscopy showed polymorphic vessels with interlacing white cords. Owing to recurrence and concern for porocarcinoma, Mohs micrographic surgery (MMS) was performed. Stage 1 margins revealed positivity between 3 and 6 o'clock, necessitating a second stage, after which margins were clear. Reconstruction was achieved with a keystone advancement flap. Histopathology confirmed benign EP. At 15-month follow-up, no recurrence was noted. This case highlights MMS as an effective tissue-sparing therapeutic option for recurrent EP in immunocompromised patients.

**Keywords:** Dermoscopy, Eccrine poroma, Immunosuppression, Keystone flap, Mohs micrographic surgery, Porocarcinoma, Recurrent adnexal tumor

## INTRODUCTION

Eccrine poroma (EP) is a benign adnexal tumor arising from acrosyringium and commonly observed over acral areas. The treatment includes simple excision or electrocautery for superficial lesions; recurrent cases need special attention. We present a unique case of a solitary recurrent EP over the right thigh, where Mohs micrographic surgery (MMS) was used as a therapeutic option.

## CASE REPORT

A 28-year-old man, known case of chronic myeloid leukemia, presented to us with a slow-growing, non-itchy, fleshy nodular lesion over the right thigh associated with watery discharge for one year. He had undergone a stem cell transplant three years back and received a conditioning regimen consisting of cyclophosphamide and total body irradiation (14 Gy) followed by maintenance with sirolimus and dasatinib. A previously obtained excisional biopsy was reported as an eccrine poroma. However, the lesion recurred six months after simple excision.

Cutaneous examination revealed a solitary, non-tender, pink, sessile, moist exophytic nodule measuring 1.7 × 1.6 cm emanating from a cup-shaped depression over the right thigh [Figure 1a]. There were no regional lymphadenopathy or systemic features such as weight loss, fever, loss of appetite, and other B-symptoms. Dermoscopy revealed polymorphic vessels with whitish interlacing cords, polarizing white lines, and pink areas [Figure 1b]. In view of

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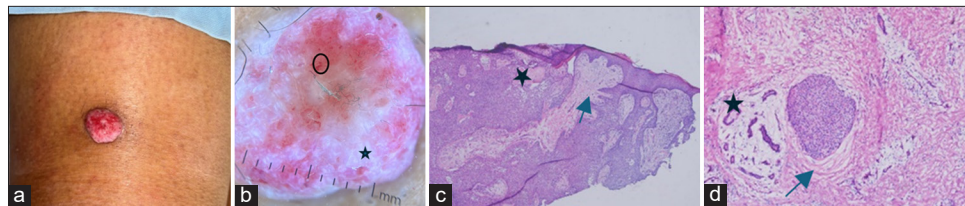
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recurrence in background immunosuppression, clinical differentials of recurrent EP, eccrine porocarcinoma (EPC), and amelanotic melanoma were kept, and the patient was planned for MMS. Histopathology sections from Stage 1 revealed a tumor arising from the basal layer of epidermis extending into the dermis, arranged in the form of large islands and nests. Tumor cells were uniform and showed ductal differentiation with a cuboidal appearance. There were no mitotic figures, and the surrounding stroma was fibrocollagenous [Figures 1c and d]. The excision margins were found to be positive from 3 o'clock to 6 o'clock, following which Stage 2 excision was done. After Stage 2, the margins were free of tumor, and the defect was closed with a keystone advancement flap. At 15 months' follow-up, the patient remains in remission [Figures 2a-c].

## DISCUSSION

EP, comprising 10% of sweat gland tumors, is usually observed in middle-aged to elderly individuals without any gender predilection.<sup>1</sup> The pathogenesis involves *HRAS* activating mutations with tumorigenic effect postulated due to immunosuppression, Merkel cell polyoma virus, and other opportunistic pathogens.<sup>2</sup> The classical presentation

is that of an asymptomatic, solitary, well-defined, sessile, reddish 2–12 mm papule or nodule with a surface ranging from smooth, shiny to verrucous and papillomatous.<sup>2,3</sup> Although acral areas are most commonly involved, any site rich in sweat glands, such as the trunk, vulva, face, eyelids, and extremities, can be affected.<sup>1,2</sup> The malignant counterpart is EPC, which may develop *de novo* or in pre-existing lesions in 18–50% cases.<sup>1</sup> The risk factors for malignant transformation include multiple lesions, recurrence in the past, spontaneous bleeding, itching, ulceration, and rapid growth.<sup>2</sup> EPC is usually more exophytic and ulcerative and may grow up to 2 cm with rapid lymphatic invasion and mortality of around 65–80% due to metastases.<sup>2</sup> Other differential diagnoses kept in our case were amelanotic melanoma, which presents as an erythematous nodule commonly over sun-exposed areas. Dermoscopy may be useful in confirming the diagnosis of EP; it shows various vascular patterns, including polymorphic, hairpin, and flower-like vessels with interlacing white cords, pink islands, and a white-to-pink halo.<sup>4</sup> Nevertheless, a definite diagnosis requires histopathologic confirmation, which also helps in differentiation from EPC. The latter shows anaplastic cells spanning the epidermis and dermis, mitotic figures, necrosis, and a highly vascularized stroma with vascular invasion.<sup>2</sup>



**Figure 1:** (a) Solitary, pink, sessile, exophytic nodule measuring 1.7 cm × 1.6 cm emanating from a cup shaped depression over right thigh. (b) Dermoscopy revealed polymorphic vessels (circle) with whitish interlacing cords (star) and pink areas and polarizing white lines, DermLite DL4, magnification 10×. (c) Microphotograph showing a tumor arising from basal layer of epidermis (arrow) extending into dermis in form of large islands (star) and nests (Hematoxylin and eosin magnification 100×). (d) Frozen section showing margin positivity at 1<sup>st</sup> stage of Mohs micrographic surgery (star). Morphologically showing uniform tumor cells with ductal differentiation and cuboidal appearance. There are no mitotic figures, and the surrounding stroma is fibrocollagenous (arrow) (Hematoxylin and eosin, magnification 400×).



**Figure 2:** (a) The presence of defect after Stage 2 excision by Mohs micrographic surgery. (b) Defect reconstructed by a keystone advancement flap from the proximal thigh. (c) Healthy scar tissue at the site of surgery after 15 months without any recurrence.

EP, on the other hand, shows a well-circumscribed tumor with proliferative cuboidal cells extending into the dermis, with nests of tumor cells having ductal differentiation. The presence of immunohistochemical markers such as p16 overexpression and loss of retinoblastoma expression in EPC can help differentiate it from EP.<sup>1</sup>

The management of EP involves shave excision or electrosurgery for superficial lesions. For deeper lesions, simple excision is useful. MMS is a specialized form of surgery with high cure rates and negligible recurrence due to complete histopathologic margin analysis.<sup>5</sup> It has been widely used for various non-melanoma skin cancers and lately EPC, where the local recurrence rate is around 20%.<sup>6</sup> In around 20 cases of EPC treated with MMS, only 1 nodal recurrence was noted, reflecting higher cure rates with MMS.<sup>6</sup> In case of recurrent EP, as in our patient and background immunosuppression, which increases the risk of EPC, it can be used as a therapeutic option to increase the cure rates and increase chances of resection with maximal tissue preservation.

## CONCLUSION

Given the potential for malignant transformation of EP, especially in immunocompromised patients, and the need for tissue preservation, MMS should be considered a valuable therapeutic approach.

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**Declaration of patient consent:** The authors certify that they have

obtained all appropriate patient consent forms. In the form, the patients have given their consent for their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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