

## A benign eccrine poroma: a case report

Muslimin

Department of Dermatology, Faculty of Medicine, Diponegoro University, Semarang, Indonesia

**Abstract** Eccrine poroma is a benign tumor, which arises from the intraepidermal portion of the eccrine sweat glands. A 78-year-old man presented with an asymptomatic red to brown colored, ulcerated tumor on the left hand. There was no previous history of trauma to the area. The first impression of this case was a malignant tumor. However, the final diagnosis, according to histologic and immunostaining methods, was a benign eccrine poroma. The tumor was excised completely with O-T flap and no recurrence was noted after 6 months of careful follow-up.

**Key words**

Eccrine poroma, benign tumor, hand.

### Introduction

Benign eccrine poroma was first described by Pinkus *et al.*<sup>1,2</sup> in 1956 as a benign tumor arises from the intraepidermal portion of the eccrine sweat gland duct. The incidence of eccrine poroma is approximately 0.001 to 0.008% of all skin biopsy specimens.<sup>3</sup> It is more common in the middle-aged or elderly person of either sex as a painless, soft to firm, solitary, sessile mass varying in size from 1 to 5 cm, commonly seen in palms or soles or sides of feet.<sup>2,4</sup> Occurrence on other locations is much less common, such as the dorsal side of the hand, finger, neck, chest, forehead, nose and scalp.<sup>1,2,4</sup> The pathogenesis is unknown, but actinic damage, radiation, trauma and the human papilloma virus have been implicated.<sup>5,6</sup> Malignant changes in long standing cases have been recorded when these lesions present with pain, sudden increase in size, bleeding or itching.<sup>7,8</sup> Here, we report a relatively rare case of benign eccrine poroma on the left hand of an elderly man.

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**Address for correspondence**

Dr. Muslimin  
Department of Dermatology & Venereology,  
Faculty of Medicine, Diponegoro University  
Semarang, Indonesia 50275  
Email: muslimin\_ina@yahoo.com

### Case report

A 78-year-old man presented to our dermatological clinic with an asymptomatic red to brown colored, ulcerated tumor on the left hand. A bean-sized papule was first noticed on the left hand two years previously, which was gradual in onset and it had slowly progressed to its present size. The patient denied any type of trauma to the area. The laboratory workup for this patient was within normal limits. Cutaneous examination showed a brown to reddish colored tumor measuring 3.0 cm in diameter with a rough surface, ulceration and erosions (**Figure 1**). There were no palpable lymph nodes and he had no systemic symptoms.

Histological examination from excision biopsy revealed a broad anastomosing strands of uniform, small, cuboidal, epithelial cells with lightly basophilic, round nuclei and moderate amount of pale to eosinophilic cytoplasm and demonstrated foci of small tubular differentiation (**Figure 2**).

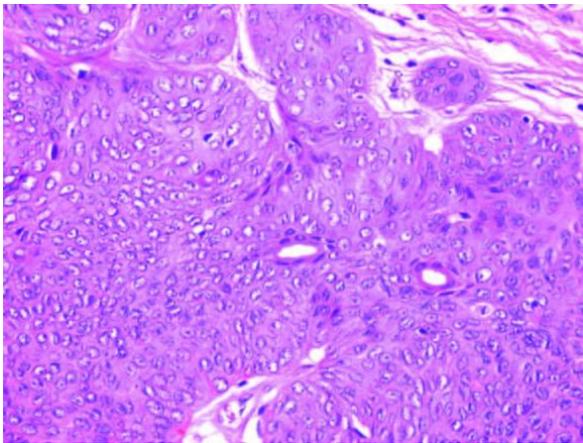
In order to check the proliferating rates of the tumor cells and to differentiate this lesion from eccrine porocarcinoma, we performed Ki-67 staining.<sup>9</sup> The stain was positive in less than



**Figure 1** A solitary 3 cm sized red to brown-colored tumor on the left hand.



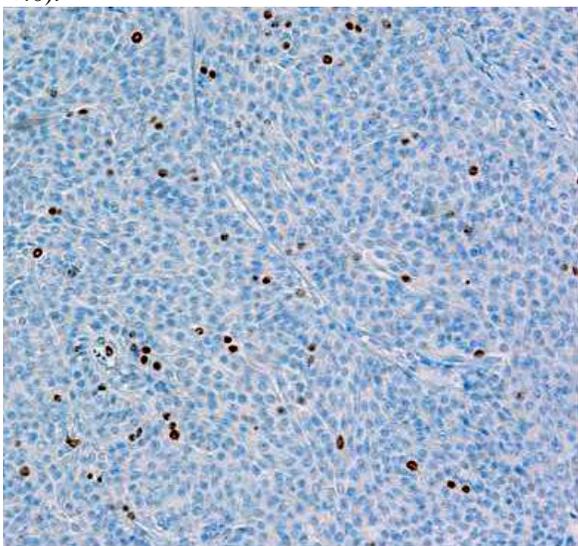
**Figure 4a** The lesion was completely excised, including normal skin around the lesion and the subcutaneous tissue, with 3 cm margins.



**Figure 2** This scanning view showed the interconnected epithelial downward growth with multiple foci of attachment to the epidermis (H&E,  $\times 40$ ).



**Figure 4b** O-T flap used to reconstruct the defect.



**Figure 3** Less than 10% of the tumor cells were positive for Ki-67.



**Figure 5** No recurrence after 6 months of careful follow-up.

10% of the tumor cells (**Figure 3**). Although the tumor cells showed an infiltrative growth pattern like malignant tumor, the majority of the tumor cells showed little nuclear and cytoplasmic

pleomorphism, nuclear hyperchromatism, mitotic activity or extensive necrosis of the tumor nests, and the positivity for Ki-67 was weak. So, we diagnosed it as a benign eccrine poroma.

Under local anesthesia, the lesion was completely excised, including normal skin around the lesion and the subcutaneous tissue, with 3 cm margins (**Figure 4a**). An O-T flap was then used to reconstruct the defect (**Figure 4b**). He had no recurrence after 6 months of close follow-up (**Figure 5**).

## Discussion

Eccrine sweat glands are derived from the epidermis.<sup>10</sup> From the epidermis, they descend to the junction of the dermis and subcutis.<sup>10</sup> Each eccrine unit consists of a hollow tube bound proximally by a secretory coil and distally by its opening onto the skin surface.<sup>10</sup> The ends of the tube are connected by a straight duct, known as the syrinx, which traverses the dermis.<sup>10</sup> The intraepidermal portion (acrosyringium) spirals to its opening on the surface.<sup>10</sup> Hence, tumours of the syrinx are called syringomas, and tumours of the acrosyringium are termed poromas.<sup>10</sup>

Lesions of eccrine poroma are often not clinically distinctive, and have been described as exophytic growths measuring 1-5cm in diameter, sessile or slightly pedunculated with normal or erythematous color and a firm consistency.<sup>1,2,4</sup> Ulceration may occur at points of pressure.<sup>1,2</sup> The clinical differential diagnosis includes pyogenic granuloma, keratoacanthoma, squamous cell carcinoma, basal cell carcinoma.<sup>1,2,10</sup> It is thus not entirely surprising that in our patient, the initial clinical impression was that of a keratoacanthoma. Giant forms of eccrine poroma do occur but are extremely rare.<sup>2,4</sup> Other rare variants include eccrine poromatosis in which multiple (more than 100

papules) occur on the palms and soles or are disseminated throughout the body.<sup>2,4</sup>

Histological examination of eccrine poroma shows a large pedunculated tumor mass with well-circumscribed tumor nests within the epidermis located at the periphery, and there are vertically oriented proliferations of tumor cells, which are connected with the epidermis.<sup>10</sup> There are sharp boundaries between the keratinocytes and tumor cells.<sup>10</sup> The tumor cells showed a monomorphic cuboidal shape and the size of the tumor cells was much smaller than that of the adjacent keratinocytes, and the tumor cells were often united by conspicuous intercellular bridges.<sup>10</sup> In this case, we found some mitotic figures in the tumor cells, but the detected immunostaining for Ki-67 was lower than 10%, implying that the tumor may not have been in a high proliferation state.

The tumor needs to be differentiated from clear cell porocarcinoma *in situ* and eccrine porocarcinoma.<sup>7,8</sup> Eccrine porocarcinoma is also referred to by some authors as malignant eccrine poroma or malignant hidroacanthoma simplex.<sup>7,8</sup> Clinically, eccrine porocarcinomas present as verrucous plaques or polypoid growths which often bleed with minor trauma.<sup>7,8</sup> There is a 50% metastasis rate in malignant eccrine poroma to regional lymph nodes and overall prognosis is often poor.<sup>7</sup> In total contrast, benign eccrine poroma has an excellent prognosis after complete surgical excision.<sup>1,2</sup> Incomplete removal, however, may lead to local recurrence.<sup>1,2</sup> If malignancy is suspected, wide excision and long-term follow-ups are essential.<sup>1,2</sup> Although eccrine poroma is known to be benign, the variants of eccrine poroma seem to frequently have malignant features.<sup>1,2,7</sup> Pylyser *et al.* reported that almost 50% of eccrine poromas exhibited malignant biological behaviors, and Robson *et al.* reported that coexistence between benign eccrine poroma and

eccrine porocarcinoma is encountered in up to 11% of the cases.<sup>8</sup> Importantly, the bleeding tendency without pain or itching has not been recognized as the hallmark of malignant transformation.<sup>7,8</sup> Furthermore, Pinkus and Mehregan reported the transformation of a long standing benign eccrine poroma that exhibited eccrine porocarcinoma.<sup>7,8</sup>

The definite treatment of an eccrine poroma is excisional biopsy.<sup>1,2,4</sup> Witkowski *et al.*<sup>2</sup> reported that the lesion should be excised completely as recurrence tended to be common after partial removal. Pylyser *et al.*<sup>4</sup> found that with total excision, the benign lesion was fully cured and the prognosis was good for the malignant variant when making a timely diagnosis and performing wide excision of the lesion. The patient was remained well with no evidence of recurrence after 6 months of careful follow-up.

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