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Case Report

Eccrine Porocarcinoma of Skin: A Rare Case Report with Review of Literature

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Abstract: Eccrine porocarcinoma is a rare malignant tumour of the eccrine sweat gland. We present a case of eccrine porocarcinoma in a ninety year-old male patient presenting with an exophytic, polypoidal growth on his forearm, clinically thought of malignant skin tumour. The mass was later excised, histopathologically evaluated to render a final diagnosis of eccrine porocarcinoma
Keywords: Eccrine porocarcinoma, malignant tumour, sweat gland

INTRODUCTION

Eccrine porocarcinoma (EPC) is a rare malignant sweat gland tumour, representing only 0.005% of epithelial cutaneous neoplasms. The first reported case of eccrine porocarcinoma, was attributed to Pinkus and Mehregan in 1963 [1]. They described it as "epidermotropic eccrine carcinoma". It was only a few years later, the term "eccrine porocarcinoma" was coined by Mishma and Morioka in 1969 [2].

CASE REPORT

A ninety year old male presented with a slow growing mass on his right forearm since two years. On clinical examination, the lesion was polypoidal, firm, fixed to the skin and non-tender. Size of the lesion was around 3x3 cm with focal surface ulceration. There were no other similar skin lesion and no palpable lymph nodes. The surgeon performed a wide excision of the lesion under local anaesthesia since the lesion appeared malignant clinically.

On gross examination, the mass was globular, skin covered measuring 3.5x3x3cm with focal surface ulceration. Cut surface of the mass was grey white, lobulated with focal tiny cystic areas (Fig 1 & 2).

Microscopically, tissue sections showed a tumour with interconnected epithelial downward growth and multiple foci of attachment to the epidermis. The tumour cells were arranged in sheets and lobules interspersed with few duct like structures and irregular cystic spaces. The tumour cells were predominantly basaloid in appearance with mild pleomorphism , hyperchromatic round to ovoid nuclei, and occasional mitosis (Fig. 3 & 4). The tumour cells focally showed intercellular bridges and squamoid appearance with intracytoplasmic keratin like material. There were focal areas with neutrophilic debris. The surgical margins were free from the tumour. A thorough histological evaluation yielded the final diagnosis of eccrine porocarcinoma.

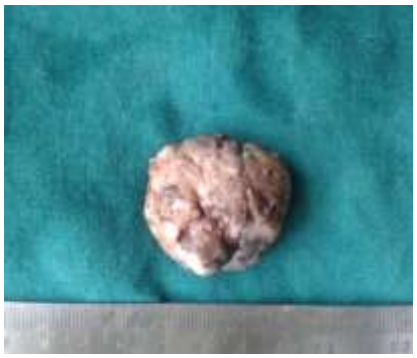

Fig. 1: globular skin covered mass with focal surface ulceration (gross appearance)

Fig-2: Cut surface was grey white lobulated with focal tiny cystic areas(gross appearance)

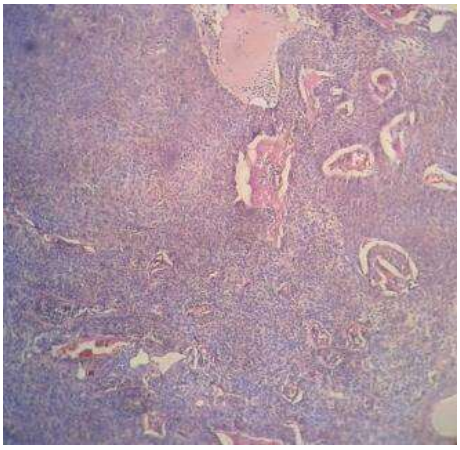

Fig. 3(lower magnification): tumour cells arranged in sheets interspersed with few duct like structures and irregular cystic spaces

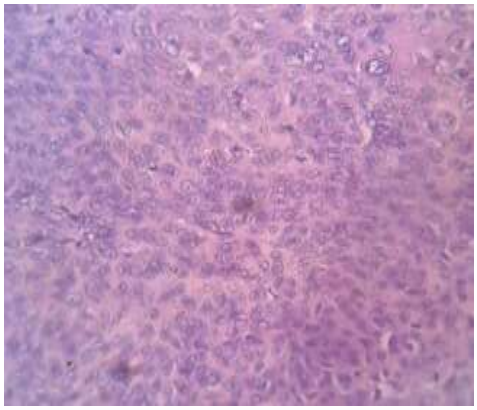

Fig. 4 (higher magnification): tumour cells are predominantly basaloid in appearance with mild pleomorphim, hyperchromatic round to ovoid nuclei, and occasional mitosis

DISCUSSION

Eccrine porocarcinoma (EPC) is a rare malignant sweat gland tumour, representing only 0.005% of epithelial cutaneous neoplasms [3]. Clinical presentation of this tumour can vary from an indurated plaque to a polypoid ulcerated and bleeding lesion. Diagnosis of eccrine porocarcinoma on clinical observation only is quite impossible [4]. Eccrine porocarcinoma (EPC) is more common in elderly patients and most cases occur in the sixth to seventh decade of life. Men and women are usually equally affected [3]. This tumour may develop as a primary tumour or undergo malignant transformation from a benign pre-existing eccrine poroma [4]. In our case there is no record of previous biopsy performed, hence, the possibility of carcinoma arising from pre-existing benign eccrine poroma cannot be ruled out.

Although it is mostly seen in the lower extremities (50%), trunk (24%), head-neck area (18%), upper extremities, hands, vulva, penis, pubis and abdomen are other common sites [3, 5].

Histologically, majority of the eccrine porocarcinoma have acanthotic epidermis associated to neoplastic epithelial cell islets that invade the dermis [6], forming intraepidermal and dermal nests and cords of epithelial cells. The tumour masses form clearly demarcated and frequently rounded nests of polygonal cells with pleomorphic and irregularly- shaped nuclei, prominent nucleoli, and numerous mitotic figures. Keratinization is usually absent. Intercellular bridging between the tumour cells is inconspicuous, but in our case lesion focally showed intercellular bridges and squamoid appearance with occasional cells having intracytoplasmic keratin like material. The tumour cells may contain glycogen. Connection to the intradermal eccrine ducts may be observed. Deep dermal intralymphatic invasion may be observed in up to 15% of the lesions. The tumour nodules stain with antibodies to pan-cytokeratin; tumour cells may stain paler than adjacent epidermal keratinocytes. Ductal structures within the tumour stain strongly positive with CEA and EMA [7].

Histopathologically, metastatic adenocarcinoma, trabecular carcinoma, Merkel cell carcinoma, basal cell carcinoma, squamous cell carcinomas, seborrheic keratosis, amelanotic melanoma and verruca vulgaris should be considered as some of the differential diagnoses [8, 9].

The pathogenesis and roles of possible pre-invasive precursors of this lesion is still unknown [10]. More recently it has been proposed that, the p53 gene involved in tumour suppression, could be involved in carcinogenesis of EPC [11]

Treatment of choice for EPC is total surgical excision with broad tumour margins and regional lymph node dissection if involved. There is still insufficient literature data on cryosurgery and electrosurgery in order to accurately assess indication and tumour recurrence [10]. Approximately 20% of eccrine porocarcinomas will recur and about 20% will metastasize to regional lymph nodes [4].

CONCLUSION

Eccrine porocarcinoma is a rare tumour clinically commonly misdiagnosed, hence histopathological evaluation of all skin tumours is required for better and specific treatment.

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