**Case Report:**

**Eccrine Porocarcinoma Associated with an Eccrine Poroma.**

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**Abstract:** Eccrine porocarcinoma is a rare carcinoma arising from the intraepidermal duct of eccrine sweat glands and constitute about 0.005% of epithelial cutaneous neoplasms. Eccrine porocarcinoma is commonly seen in lower extremities, followed by head, scalp, upper extremities, trunk and abdomen. It can arise denovo or from pre-existing eccrine poroma. We present a 45 years old female patient who presented with painful hard warty growth of size 3x2 cm with ulceration and an adjacent nodule measuring 1x1 cm in the lateral aspect of dorsum of left foot for the past 3 years with rapid increase in size for 3 months duration. Microscopically larger and smaller nodules showed features of eccrine porocarcinoma and eccrine poroma respectively. Immunohistochemistry for pancytokeratin showed strong membrane positivity, Ki-67 showed 40% nuclear positivity and CD 34 negative. The lesion was diagnosed microscopically as eccrine porocarcinoma associated with pre-existing eccrine poroma.

**Key Words:** Eccrine porocarcinoma, Sweat gland carcinoma, Malignant eccrine poroma.

**Introduction:**

Eccrine porocarcinoma (EPC) is a rare adnexal carcinoma arising from the intraepidermal duct (acrosyringium) of eccrine sweat glands. The first case was reported in 1963 by Pinkus and Mehregan.[1] They called it ‘epidermotropic eccrine carcinoma’. In 1969 Mishma and Morioka introduced the term ‘eccrine porocarcinoma’. EPC constitute about 0.005% of epithelial cutaneous neoplasms and commonly seen in lower extremities, followed by head, scalp, upper extremities, trunk and abdomen.[2] It can arise denovo or from pre-existing eccrine poroma. We present a case of eccrine porocarcinoma associated with pre-existing eccrine poroma of long duration with clinical history of pain and sudden increase in size.

**Case Report:** A 45 years old female patient presented with painful hard warty growth of size 3x2 cm with ulceration and an adjacent nodule measuring 1x1 cm in the lateral aspect of dorsum of left foot for the past 3 years. The lesion presented as a small nodule and showed rapid increase in size for 3 months to attain the present size. The lesion was excised and sent for histopathological examination. Grossly the specimen showed wedge of skin with two nodules larger measuring 3x2 cm with ulceration and an adjacent nodule measuring 1x1 cm measuring 1x1 cm in the lateral aspect of dorsum of left foot for the past 3 years with rapid increase in size for 3 months duration. Microscopically larger and smaller nodules showed features of eccrine porocarcinoma and eccrine poroma respectively. Immunohistochemistry for pancytokeratin showed strong membrane positivity, Ki-67 showed 40% nuclear positivity and CD 34 negative. The lesion was diagnosed microscopically as eccrine porocarcinoma associated with pre-existing eccrine poroma.

**Key Words:** Eccrine porocarcinoma, Sweat gland carcinoma, Malignant eccrine poroma.
Fig 1: Specimen shows wedge of skin with two nodules larger measuring 3x2 cm with an ulcer 1x1 cm and an adjacent smaller nodule measuring 1x1 cm.

Fig 2: Cut section showed gray white ill-defined nodular lesion in the dermis measuring 3x3 cm with areas of haemorrhage and an adjacent gray white nodule measuring 1x1 cm.

Microscopically the larger lesion showed ulcerated squamous epithelium with underlying malignant cells arranged in sheets and clusters with marked nuclear pleomorphism, prominent nucleoli, areas of necrosis and invasion into the deeper tissue. At places ductal structures seen with accumulation of pink secretory material which was periodic acid Schiff stain positive (Fig-3,4). Section from the smaller nodule showed features of eccrine poroma composed of epidermis with underlying dermis showing broad, anastomosing bands of small epithelial cells in continuity with epidermis and composed of intercellular bridges and round basophilic nucleus (Fig-5). Immunohistochemistry for pan cytokeratin and Ki-67 was done in the larger lesion. CD 34 was also done to rule out vascular lesion because of increased vascularity noted in the lesion. Pancytokeratin staining showed strong membrane positivity (Fig-6). Ki-67 staining was 40% positive and it indicated the high proliferation rate of the tumor (Fig-7). CD 34 stained the endothelial cells of blood vessels but not the tumor cells (Fig-8). Surgical margins are free from tumor invasion. Histopathological diagnosis was porocarcinoma probably arising from pre-existing eccrine poroma. No metastatic deposits were detected in the patient and follow up till date is uneventful.
lung, retroperitoneum, bones, breast, liver, mediastinum, urinary bladder, and ovary.[1] EPC arise denovo from the intraepidermal portion of eccrine duct or from pre-existing eccrine poroma. Robson et al reported occurrence of EPC in 18% of eccrine poroma.[6] This was supported by long clinical history of a nodular lesion with sudden increase in size. Symptoms like pain, itching and bleeding are in favour of malignant transformation.[6] Malignant change may be induced by immunosuppression or ionizing radiation.[4] Association with lymphocytic dysfunction like multiple myeloma and chronic lymphocytic leukemia had been noted but the mechanism is not clearly understood.[4] Table 1 shows characteristics of EPC in literature in comparison with our case.

<table>
<thead>
<tr>
<th>Author</th>
<th>Age / sex</th>
<th>Duration</th>
<th>Site</th>
<th>Size (cm)</th>
<th>Metastasis</th>
<th>Association with eccrine poroma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choi CM et al[1]</td>
<td>44/M</td>
<td>7 months</td>
<td>Right scrotum</td>
<td>7x6</td>
<td>Lymph nodes, Lungs, Adrenal, Esophagus</td>
<td>No</td>
</tr>
<tr>
<td>Chang O et al[2]</td>
<td>42/M</td>
<td>6 years</td>
<td>Right lower limb</td>
<td>3x2x1x0.6</td>
<td>Absent</td>
<td>Yes</td>
</tr>
<tr>
<td>Moussallem et al[3]</td>
<td>77/M</td>
<td>4 months</td>
<td>Right 1st toe</td>
<td>Absent</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Gerber PA et al[4]</td>
<td>194/F</td>
<td>4 years</td>
<td>Scalp</td>
<td>Absent</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Gerber PA et al[4]</td>
<td>217/F</td>
<td>2 months</td>
<td>Scalp</td>
<td>Absent</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Gerber PA et al[4]</td>
<td>180/M</td>
<td>3 years</td>
<td>Scalp</td>
<td>Absent</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Gerber PA et al[4]</td>
<td>478/M</td>
<td>1 year</td>
<td>Scalp</td>
<td>Absent</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Latifi H et al[7]</td>
<td>72/M</td>
<td>30 years</td>
<td>Left cheek</td>
<td>5x5</td>
<td>Absent</td>
<td>No</td>
</tr>
<tr>
<td>Ma gone U et al[8]</td>
<td>42/M</td>
<td>10 months</td>
<td>Left arm</td>
<td>2</td>
<td>Left Axillary lymph nodes</td>
<td>No</td>
</tr>
<tr>
<td>Present case</td>
<td>49/F</td>
<td>3 years</td>
<td>Dorsum of left foot</td>
<td>3x2</td>
<td>Absent</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Clinically EPC occurs as a solitary, slow growing, pink to red nodule with smooth or ulcerated surface. Differential diagnosis includes basal cell carcinoma, squamous cell carcinoma, amelanotic melanoma, metastatic carcinomas and other malignant adnexal tumors.[7] Local recurrence and lymph node metastasis occur in 20% cases and distant metastasis occur in 10% cases.[8]

Treatment is wide surgical excision for localised tumors, regional lymphadenectomy for nodal deposits, adjuvant chemotherapy and radiotherapy for wide spread tumors. Cure rate after wide surgical excision for tumors without metastasis is 80% but prognosis is poor for patients with lymph node deposits or distant metastasis.[2,6,9] In our case there was no nodal or distal metastasis and follow up till date is uneventful.

Conclusion

As in our case, EPC associated with eccrine poroma typically will have a long clinical history with sudden increase in size or may present with bleeding, itching and pain. EPC should be considered in the differential diagnosis of skin tumours in the elderly. Early surgical intervention is curative and is essential to avoid transformation of benign lesions to malignancy.

References


Discussion

Eccrine unit consists of coiled tubes at both ends connected by straight tube which runs in the dermis. The deep coiled part is the secretory unit, the intraepidermal coiled part is known as acrosyringium and straight part is called syrinx.[3] Eccrine poroma and eccrine porocarcinoma arise from acrosyringium. Eccrine porocarcinoma (EPC) is usually seen in sixth to eight decades of life with female predominance.[1] In around 50% of cases the site was lower limbs and 40% out of these cases occurred below knee. Other sites are head and neck, scalp, upper extremities, trunk and abdomen.[2] Scalp lesion can sometimes present with intracranial extension,[4] EPC usually metastasize through lymphatics to the regional lymph nodes.[5] There can be multiple cutaneous metastases or visceral metastases to

Fig 6: Immunohistochemistry marker Pancytokeratin showed strong membrane positivity (4x)

Fig 7: Ki-67 immunohistochemistry marker showed 40% positivity (10x).

Fig 8: Immunohistochemistry marker CD 34 stained only endothelial cells and not tumor cells (4x)


