

A case of sweat-gland carcinoma with neuroendocrine differentiation

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Dear Editor,

Low-grade neuroendocrine tumors, also known as carcinoid tumors, are slow-growing cancers derived from neuroendocrine cells, usually found in the digestive tract or lung lining; the primary tumor in the skin is extremely rare and is called sweat-gland carcinoma with neuroendocrine differentiation (SCAND) as a new disease concept.¹⁻⁴ Herein, we report a case of SCAND on the lower abdomen presenting bilateral inguinal lymph node metastasis.

A 73-year-old Japanese male patient presented to our hospital with a 5-year history of a red nodule arising from the lower abdomen to the base of the penis. He has a medical history of hypertension, atrial fibrillation, and cerebral infarction. Physical examination revealed a red mulberry-shaped nodule with red papules (Figure 1A) and enlarged, elastic, and complex lymph nodes at the bilateral inguinal region. Dermoscopy showed branched and/or partially reticular vessels on a pale red structureless area (Figure 1B). Contrast-enhanced computed tomography revealed two tumors in the left kidney. They were renal cell carcinomas classified as cT1aN0M0 stage I with a low probability of metastasis, and no other visceral malignan-

cies were found. 18F-fluorodeoxyglucose positron emission tomography integrated with computed tomography showed abnormally increased cellular uptake of glucose on the lower abdomen and bilateral inguinal lymph nodes; however, the left renal tumors and other sites showed normal uptake. Skin biopsy revealed various-sized tumor nests diffusely infiltrated from dermis to subcutaneous tissue (Figure 2A-B). Focal pagetoid extension of the tumor cells within the overlying epidermis was observed. The tumor cells were small to medium size, with abundant and pale eosinophilic cytoplasm, round-to-oval nuclei, and coarse granular chromatin pattern. Few nuclear atypia and mitotic figures were observed (Figure 2C). A tumor mass floating in abundant mucus was observed in part of the tumor (<10%) (Figure 2D). Alcian blue staining (pH 2.5) showed extracellular mucin deposition. The metastatic lymph nodes were almost replaced by tumor cells that showed a trabecular growth pattern (Figure 2E). Immunohistochemical staining of the tumor cells was positive for cytokeratin 7, estrogen receptor, progesterone receptor, chromogranin A, synaptophysin, CD56, and GATA3 and negative for cytokeratin 20. Consequently, we diagnosed this tumor as SCAND. However, the scheduled surgery was canceled due to multiple cerebral infarctions. SCAND was a newly proposed entity and sporadic disease in 2022. It commonly occurs on milk-lines on the trunk of middle-aged to elderly males and often causes lymph node metastasis.⁴ In our case, histopathologically, a tumor mass floating in a large amount of mucus was observed in part, and primary cutaneous mucinous carcinoma (PCMC) with neuroendocrine differentiation was the differential diagnosis. However, since this feature accounts for only a tiny fraction of tumors (<10%) and

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PCMC occurs primarily in the head and neck region, we thought PCMC could be ruled out. Consequently, while SCAND and PCMC sometimes share histologic similarities, their differentiation is important because PCMC rarely metastasizes while SCAND often does.⁵ It has not been long since the SCAND concept was proposed, and more cases are expected to accumulate.

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Figure 1. A) a red mulberry-shaped nodule on the lower abdomen to the base of the penis (30 mm × 25 mm × 15 mm) with some red papules on the margin; B) a dermoscopic image of the penile nodule showing branched and/or partially reticular linear vessels in a pale red structureless area.

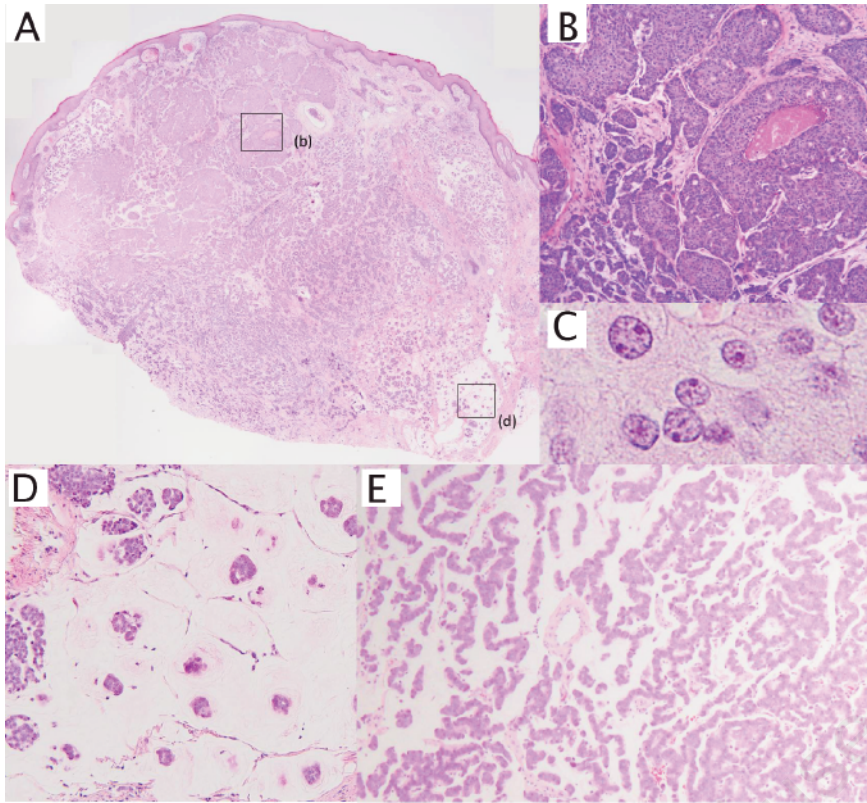


Figure 2. A) histopathological features of the primary tumor. The tumor nests show diffuse infiltration from the upper dermis to the subcutaneous tissue (hematoxylin-eosin, original magnification $\times 40$); B) tumor nests of varying sizes are seen (hematoxylin-eosin, $\times 200$); C) the tumor cells are small- to medium-sized with abundant and pale eosinophilic cytoplasm, round-to-oval nuclei, and a “salt-and-pepper” chromatin pattern. Few nuclear atypia and mitotic figures are observed (hematoxylin-eosin, $\times 400$); D) a tumor mass floating in abundant mucus is observed in part of the tumor (<10%) (hematoxylin-eosin, $\times 200$); E) tumor cells displayed a trabecular growth pattern with abundant extracellular mucin deposition in the resected lymph node (hematoxylin-eosin, $\times 200$).

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