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A young case of digital papillary adenocarcinoma successfully treated by wide local excision

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Dear Editor,

Digital papillary adenocarcinoma (DPA) is a rare malignant tumor originating from the sweat glands, predominantly affecting the digits of middle-aged to elderly individuals, with a higher incidence in males.[1-4] DPA presents as a painless, slow-growing nodule on the fingers or toes, often leading to delayed diagnosis.[1-4] DPA is characterized by complex papillary and tubular structures, cytologic atypia, and frequent mitotic figures.[5] Due to its propensity for local recurrence and distant metastasis, early detection and local excision with clear margins are crucial for effective management.[2] Regular long-term follow-up is recommended to monitor for recurrence or metastasis.[3] Here, we present a young case of DPA located on the hand successfully treated by wide local excision.

A 38-year-old man presented with a papular lesion on his right index finger that had been present for nine years and had increased in size over the past six months. Physical examination revealed a 9-mm papule on the ulnar aspect of the distal interphalangeal (DIP) joint of the right index finger, with a centrally located 5-mm circular blackish area (Figure 1 a, b). Suspecting a mucinous cyst, tumor excision was performed, and a 9-mm nodule was resected. The tumor had a solid and cystic structure with tubular and papillary proliferation (Figure 1 c, d). Numerous mitotic figures were observed, and approximately 70% of the tumor cells were Ki-67 positive (Figure 1e). The tumor consisted of p53-positive cells forming glandular structures and p63-positive cells aligned at the outer margins, leading to the diagnosis of DPA (Figure 1 f, g). An additional excision with a 10-mm margin was promptly performed, and the margin was negative. No recurrence was suspected at the surgical site. Contrast-enhanced CT was performed to assess the need for further chemotherapy or radiotherapy, revealing no signs of recurrence or metastasis. This case has shown no recurrence or metastasis for more than two years postoperatively (Figure 1h).

This case of a 38-year-old male with DPA underscores the need for timely diagnosis and surgical intervention, as the slow-growing papule required a differential diagnosis from benign conditions, such as mucous cysts. Accurate distinction from benign counterparts, such as digital papillary adenoma, is essential for appropriate management. The patient underwent excision with a margin of 10 mm following confirmation of DPA in accordance with squamous cell carcinoma, achieving negative margins, a key factor in reducing recurrence risk.[2] Despite no recurrence or metastasis after two years in this case, long-term follow-up with regular imaging remains crucial due to the tumor's potential for late recurrence and metastasis, reported in up to 14% of cases.[4] Although there is no consensus on the optimal resection margin for DPA, this case demonstrates that a 10-mm margin resulted in no recurrence after two years. However, long-term follow-up is essential to determine its adequacy. In the present case, the onset of the disease was at a relatively young age of 38 years. Early

detection and prompt treatment are critical to improving outcomes in this rare but challenging malignancy.[2]

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Figure 1. Clinical features and pathological images. **a**, **b**) A 9-mm papule is found on the ulnar side of the right index finger DIP joint, with a 5-mm circular blackish color in the center. **c**, **d**) Hematoxylin and eosin staining shows a large nodule without continuity with the epidermis, seen from the dermis to the subcutis. The tumor cells are cuboidal to cylindrical, relatively well-defined, and grow in a papillary and glandular, duct-like pattern. The tumor foci are biphasic with cells forming glandular ducts and relatively regularly arranged cells on their outer margins (d: original magnification 400x). **e**) Ki-67 staining is positive in approximately 70% of all tumors (original magnification 400x). **f**) p53 staining is positive for tumor cells (original magnification 400x). **g**) p63 staining is positive for cell nuclei outside the tumor foci (original magnification 400x). **h**) No obvious findings to suspect recurrence.