Hidradenocarcinoma of the Dorsum of the Hand

Wan Cheol Ryu, Yong Hae Lee, In Chang Koh, Jang Sihn Sohn, Se Min Jang

1Department of Plastic and Reconstructive Surgery, Konyang University Hospital, Konyang University College of Medicine, Daejeon, Korea
2Department of Pathology, Konyang University Hospital, Konyang University College of Medicine, Daejeon, Korea

Hidradenocarcinoma originates in the eccrine glands located in sun-exposed areas and accounts for approximately 6% of malignant eccrine tumors and <0.001% of all skin cancers.[1-3] Hidradenocarcinoma usually presents as a solitary, firm, asymptomatic intradermal nodule measuring 1–5 cm, covered by intact or occasionally ulcerated purple-, pink-, or blue-colored lesions.[1] While hidradenocarcinoma typically grows slowly over many years, it may suddenly undergo a rapid increase in size. The differential diagnosis of hidradenocarcinoma is very challenging because the appearance of the lesion is benign and similar to that of other skin tumors. In this report, we present the case of a patient with hidradenocarcinoma who was treated with wide excision and full-thickness skin grafting.

A 57-year-old male was incidentally found to have a slowly growing and painless mass in the first web space of the dorsum of the left hand. The patient stated that the mass had been present for 10 years, but its size had increased. Tumor resection was performed in a local private clinic approximately 5 years ago. However, the mass recurred. Upon presentation, examination of the mass revealed an ulcerative and fungating mass measuring 1.5 cm × 1.7 cm and nontender to palpation. On physical examination, the patient showed no associated cubital or axillary lymphadenopathy. Chest and abdomen computed tomography (CT) revealed nonspecific findings. Positron emission tomography-CT (PET-CT) revealed no evidence of distant metastasis. The mass on the dorsum of the left hand was excised widely, with a 1.5-cm safety margin [Figure 1a]. Immediately after resection, the frozen section revealed the presence of a malignant cell close to the surgical margin, about 1 mm away from the deep margin of the tumor. Further excision of the deep margin was recommended. A second frozen section examination was negative for malignancy of the subcutaneous fat and muscle tissue [Figure 1b]. Subsequently, a full-thickness skin graft was used to cover the defect, with W-plasty to prevent web space contracture. The skin graft was harvested from the left groin area (5.0 cm × 4.5 cm) and fixed at the recipient site. The patient was discharged 5 days after operation and returned to the clinic 4 days later for follow-up. The skin grafts were found to be successful, and the patient’s postoperative course was uneventful [Figure 1c].

Microscopically, the tumor was composed of irregular-shaped solid sheets and infiltrative clusters that varied in size. The tumor surface was ulcerated, with multifocal ischemic necrosis. The depth of invasion was about 0.8 cm from the skin surface, reaching the subcutis tissue. Approximately half of the tumor cells showed abundant pale or clear cytoplasm and distinct cell membranes [Figure 1d]. Mild nuclear pleomorphism with vesicular chromatin distribution and prominent nucleoli was seen. The remaining tumor cells had a basaloïd appearance, with scanty eosinophilic cytoplasm, and were arranged in closely packed, patternless nests and whorls [Figure 1e]. Small, round ductal structures and intracytoplasmic vacuoles, suggesting ductal differentiation, were occasionally identified. Perineural invasion was rarely seen, and definite lymphovascular tumor emboli were not identified. On immunohistochemical staining, the tumor cells appeared diffusely reactive for p63, CK5/6, and the epithelial membrane antigen. In addition, p53 expression was significantly increased, and the Ki-67 labeling index was estimated at 70% [Figure 1f]. The overall findings suggested the diagnosis of hidradenocarcinoma. Close observation is ongoing with CT and PET-CT planned for the 6-month follow-up.

Hidradenocarcinoma presents as a combination of histological variants and typically occurs in sun-exposed...
areas such as the head and neck. Recent reports described occurrences at various sites including the finger, eyelid, scalp, lip, neck, chest wall, breast, back, leg, toe, and perianal area. When tumors occur on the hand, they locate on the palmar area, in correlation with the main distribution of the sweat glands. The dorsum of the hand is not expected to be a site for tumors of the sweat glands due to few sweat glands. Nevertheless, in our patient, hidradenocarcinoma occurred on the dorsum of the hand.

Hidradenocarcinomas have a much higher rate of both local recurrence (14–20%) and lymphatic metastasis (20–24%). Hidradenocarcinomas are treated through surgical excision with sentinel lymph node biopsy, followed by chemotherapeutic protocols mirroring those used for breast cancer, as needed. However, radiation therapy is not recommended in the treatment guidelines for hidradenocarcinoma currently, our patient did not receive chemotherapy, especially since PET-CT revealed no evidence of distant metastasis. Further study is needed to develop a suitable classification system as well as treatment protocols.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

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