Sweat gland carcinomas are rare, aggressive tumors that are notoriously resistant to radiotherapy with a random and largely unknown clinical course. Further, sweat gland carcinomas with distant metastases have been infrequently recorded in the literature, the first case being reported by Hedinger in 1911. Most of these tumors have originated in areas where the apocrine sweat glands are located but may also occur where nonapocrine or eccrine sweat glands occur. Gates et al reviewed the world literature from 1865, when the first case of sweat gland carcinoma was recorded, to 1939. They found 29 cases of sweat gland carcinoma, but metastases had occurred in only 4 instances. Stout and Cooley added 6 cases in 1951 followed by Smith who added the first case to the British literature in 1956. Up to 1960, there were only 24 cases in total in the world literature, with an additional 7 being added by Hirsh et al in 1971. Since then, there have been a few further case reports in the literature. We herein discuss our experience and review the literature on primary and metastatic sweat gland carcinoma of the hand.

**CASE REPORT**

A 78-year-old woman presented with a fracture of the left little finger to her orthopedic surgeon, which was treated in a conventional manner. It healed with a malunion, developed a deformity, and was eventually amputated because it was nonfunctional. Histological examination was not requested. Over time, the palm of the hand became progressively worse with a reddish, inflamed, thickened appearance. The other fingers became deformed in a flexed position with the entire hand becoming useless (Fig. 1). She then presented to her general practitioner who performed a skin biopsy of a suspicious nodule on the dorsum of the left forearm. Histological examination showed who added the first case to the British literature in 1956. Up to 1960, there were only 24 cases in total in the world literature, with an additional 7 being added by Hirsh et al in 1971. Since then, there have been a few further case reports in the literature. We herein discuss our experience and review the literature on primary and metastatic sweat gland carcinoma of the hand.

**Summary:** A rare case of metastatic invasive sweat gland adenocarcinoma of hand in a 78-year-old woman is presented. From this analysis of the available literature, it seems that these rare primary tumors of the hand are aggressive tumors with little known about their biological behavior. Fluoropyrimidines, taxanes, and cisplatin have been reported to be active agents for metastatic sweat gland carcinomas. Further, these tumors have historically been considered radioresistant, but responses to radiation have been documented in the setting of recurrent disease, and the use of adjuvant radiotherapy has been advocated for tumors at high risk of local recurrence. We advocate an aggressive approach of high amputation and axillary lymph node dissection with adjuvant treatment using chemotherapy as the mainstay with close follow-up for metastases. *(Plast Reconstr Surg Glob Open 2015;3:e512; doi: 10.1097/GOX.0000000000000488; Published online 10 September 2015).*
this to be metastatic adenocarcinoma. A search for the primary adenocarcinoma involved performing a computed tomography scan of the chest, abdomen, and pelvis and mammography, gastroscopy, colonoscopy, and blood investigations. These were all negative for primary malignancy. She was then referred under our care, which began with a careful history followed by biopsies of palm of the hand and ventral surface of the wrist. This revealed an invasive moderately differentiated sweat gland adenocarcinoma. The patient was advised to have an urgent amputation of the left upper limb through the humeral surgical neck with a level I axillary lymph node dissection and skeletonization of the axillary vessels and nerves. Reconstruction was done using a deltoid flap (Fig. 2). Histological examination confirmed this to be invasive, well to moderately differentiated adenocarcinoma of the sweat ducts with skin, muscle, tendon sheath, and perineural invasion involvement (Figs. 3, 4).

Sections from the antecubital fossa revealed tendon sheath invasion and perineural invasion by the malignant syringoma. Surgical margin incision lines were free of malignancy, and axillary histological examination revealed metastatic adenocarcinoma in 3
the use of adjuvant radiotherapy has been advocated for tumors at high risk of local recurrence.

**CONCLUSION**

We advocate an aggressive approach of high amputation and axillary lymph node dissection, with adjuvant treatment using chemotherapy as the mainstay with close follow-up for metastases. We hope this case adds information to the paucity of data available and highlights the importance of good history taking and histological analysis of all specimens.

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