Cutaneous Metastases Arising from Synovial Sarcoma: A Case Report

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To the Editor: Synovial sarcoma (SS) is a relatively rare type of soft tissue sarcoma that constitutes approximately 8% of all soft tissue sarcomas. SS frequently occurs in the para-articular structures of the limbs and is predominantly found in the lower limbs. The other involved locations of invasion are lung, lymph nodes, and bone. However, the skin is rarely involved. Here, we reported an extremely rare case of biphasic SS presenting with disseminated cutaneous metastases.

A 48-year-old Chinese female patient presented with a complaint of swelling in her right upper limb without pain for 23 months. Her medical history showed one plastic surgery for congenital thickening of the right arm 13 years ago. She had received surgery consisting of the right interscapulothoracic amputation. The pathological results of the tumor showed SS. Ten months after surgery, the patient developed multiple papules and nodules in the local skin area on the right arm that extended to the flexion of the right trunk [Figure 1a]. A pathological examination of the skin lesion was performed. The histopathology of the skin lesion revealed a biphasic pattern of SS composed of spindle cells and epithelial cells. Mitotic activity, hemorrhage, and subepidermal blistering could be seen. However, there was normal hemangiopericytic vasculature, and no intervening collagenous stroma was observed [Figure 1b]. The atypical cells were positive for AE1/AE3, Bcl-2, and CD-99 by immunohistochemistry. The cells formed a cluster or nest. Mitotic activity and subepidermal blistering can be seen (H and E, original magnification ×100).

Figure 1: (a) Lesions are present in the flexion of the right trunk. (b) The tumor consisted of two components: Spindle cells and epithelial cells. The cells formed a cluster or nest. Mitotic activity and subepidermal blistering can be seen (H and E, original magnification ×100).

SS is rarely observed in skin and is not induced by therapeutic irradiation. However, previous reports indicate surgery and antecedent trauma are risk factors associated with SS susceptibility.[1] In our case, the patient had likely developed SS after receiving surgery in her right upper limb. Conservative surgery is the main treatment option for SS cases and can remove all of the visible tumors, regardless of whether cutaneous metastases are detected.[1] In contrast, there is limited evidence showing a survival benefit with chemotherapy treatment in SS cases.[2‑4] SS can lead to diagnostic confusion with the following neoplasms: myoepithelial carcinoma, mesothelioma, leiomyosarcoma, epithelioid sarcoma, malignant peripheral nerve sheath tumor, and carcinosarcoma. These diseases require differentiation using immunohistochemistry.[3] It was reported that SS contains the t (X; 18)(p11.2; q11.2) translocation, which is a fusion of the SYT gene on chromosome 18 with one of the SSX genes (mainly in SSX1, SSX2 genes) on the X chromosome.[1] Confirming the SS18-SSX gene fusion is a method of differentiating SS from other neoplasms. However, the SS18-SSX is not detected in 100% of SSs.[1] Our patient died several years ago according to her family. As a result, we did not complete the fluorescence in situ hybridization for the SS18 translocation. The histopathology and the immunohistochemistry findings were able to differentiate SS from other diseases in this case.

In conclusion, we reported an extremely rare case of disseminated cutaneous metastases derived from SS due to surgery. Trauma could be the risk factor causing this disease.

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The cutaneous metastases are perceived as a severe prognostic indicator. The presence of cutaneous metastases in SS cases indicates treatment resistance. Thus, additional treatments are needed for this disease.

**Declaration of patient consent**
The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initial will not be published and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**
There are no conflicts of interest.

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