Management of Truncal Sarcoma

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KEYWORDS

• Desmoid • Spermatic cord • Sentinel node biopsy • Liposarcoma

KEY POINTS

- Reconstruction following resection of truncal soft tissue sarcoma is complex due to the multiplanar forces exerted on this region.
- Desmoid tumors arise often in the trunk and have many options for management, including observation alone.
- Sarcoma of the inguinal region or spermatic cord offers unique surgical management decisions regarding the genitourinary system that can have significant psychosocial implications.

INTRODUCTION

Soft tissue sarcomas (STSs) were responsible for 11,930 new cases of cancer and 4870 deaths in 2015.[1] Sarcomas can occur throughout the body with most (40%) occurring in the extremity and approximately 20% in the retroperitoneum. The site of disease is important regarding prognosis. The 15-year survival rate is better for extremity STS (68.4%) than for primary retroperitoneal sarcoma (50%), and truncal sarcoma falls roughly in the middle (59.5%).[2] Sarcomas occurring within the layers of the abdominal or chest wall are considered truncal sarcomas. The anatomic boundaries that define the region include the entire circumference of the body bordered by the clavicles superiorly and the inguinal crease inferiorly. Approximately one-fifth of STSs originate within these boundaries.[3] The most common malignant histologies that occur in this region are, in descending order, undifferentiated pleomorphic sarcoma, liposarcoma, and myxofibrosarcoma.[4] Although there are certainly some similarities regarding the management of extremity and truncal STS, this article focuses on the unique histologies most associated with truncal sarcoma and the unique aspects of surgical management for patients with truncal sarcoma.

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General Principles

Initial evaluation of a patient with STS begins with a thorough history and physical examination. The history of the lesion itself is important, such as duration, temporal changes, and local symptoms, including weakness or neurovascular deficit. Family history can be especially important because the patient may be the proband for inherited conditions like Li Fraumeni (p53 mutation), Gardner syndrome (APC mutation), or Von Recklinghausen disease (NF1 mutation). Physical examination should be general enough to identify comorbid conditions to affect the perioperative morbidity and mortality but also focus on the lesion of interest. For truncal sarcoma, specific attention should be paid to prior surgical incisions around the lesion, prior surgical drain sites (such as tube thoracostomy), and the mobility of the lesion from the abdominal or chest wall. Palpation and movement of the truncal mass is a crucial finding for the operating surgeon because it helps to better define the invasive nature of the lesion related to bony structures, such as the pelvis or chest wall.

Before resection, it is essential to stage the patient adequately. Truncal lesions require imaging of the primary lesion in the form of computed tomography (CT) or MRI with contrast to plan the surgical resection (**Fig. 1**). Staging should include a CT scan of the chest for intermediate- or high-grade lesions or any lesion greater than 5 cm in size.[5] Intravenous contrast is important for both staging and diagnostic CT scans so as to better define the enhancement of any potential visceral lesions identified. The imaging characteristics are often suggestive of the histology (ie, lipomatous and myxoid tumors) and even the grade (ie, degree of necrosis/enhancement) of the tumor. These characteristics drive the decision regarding the need for preoperative biopsy of resectable tumors because those lesions under consideration for neoadjuvant chemotherapy or radiation require biopsy.

Preoperative biopsy of trunk lesions should be used when the diagnosis is unclear based on imaging, and in general, is recommended. Imaging findings that strongly suggest a high-grade lesion (increased contrast uptake or foci of necrosis) should prompt biopsy to better direct a multidisciplinary approach, which may require neoadjuvant chemotherapy or radiation. The method of biopsy should be image-guided core biopsy, and the operating surgeon should be involved in the biopsy planning. Image guidance is advocated so the radiologist can sample those areas of the tumor thought most likely to harbor the highest grade component of the lesion. Excisional biopsy can

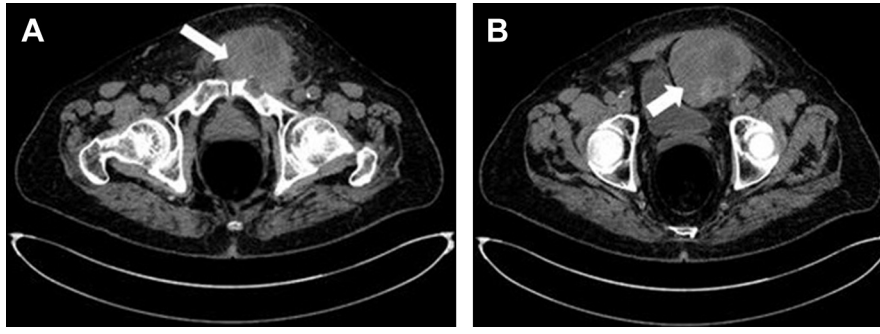

Fig. 1. CT scan of abdominal wall dedifferentiated liposarcoma in the left lower quadrant. (*A*) The solid, dedifferentiated component (*arrow*) involves the superior ramus of the pubis. (*B*) The solid component (*arrow*) demonstrated external compression of the bladder and remained entirely extraperitoneal.