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Soft Tissue Sarcoma II: Management

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I. INTRODUCTION

This article is the second half (Part 2) of a review on soft tissue sarcoma (STS). Part 2 describes the basic concepts involved in managing patients with STS, including surgical resection, limb-sparing surgery, adjuvant therapy, and follow-up; diagnosis and management of retroperitoneal sarcomas are also discussed. Part 1 of this review (“Soft Tissue Sarcoma I: Evaluation”) focused on etiology, pathology, and staging of sarcoma and described how to initiate evaluation of a patient with a soft tissue mass. Review questions using case patients are provided at the end of Part 2 for self-assessment. This review is not intended to be comprehensive; additional articles are provided in the reference section.

II. PREOPERATIVE STAGING AND TREATMENT

After diagnosis of STS is established and identification of a sarcoma is made (*see* Part 1), a full staging workup is begun. Patients with STS frequently die of their disease because of metastases; therefore, it is essential to assess patients for metastases even during the initial workup (*see also* Section V. “Metastasis”). Patients also die because of growth into vital structures, especially by retroperitoneal sarcoma and sometimes by extremity sarcoma. Because the most common site of metastatic disease for extremity sarcoma is the lung, a plain radio-

graph and computed tomography (CT) scan of the chest need to be obtained. Approximately 10% of patients with lung metastases have a normal chest radiograph, but metastases are detected on their CT scans.^{1,2} Bone pain and neurologic symptoms must be followed up with appropriate and directed imaging tests. For example, a bone scan would be appropriate for focal tenderness along the spine. A CT or magnetic resonance imaging (MRI) scan of the head would be included in the workup for focal paresthesias or paralysis. Laboratory data should include transaminase, alkaline phosphatase, lactate dehydrogenase, and bilirubin levels to screen for abnormalities that would raise suspicion of hepatic metastases.

SURGICAL RESECTION

The foundation for treatment of extremity STS is surgical resection. The surgeon should perform a wide en bloc resection of the sarcoma and try to obtain a 2-cm margin around the tumor wherever feasible. Many excisions, however, are truly “marginal” because of their juxtaposition to bone or neurovascular bundles. Most sarcomas do not invade bone, so it is rarely necessary to remove bone. It is frequently necessary to remove periosteum en bloc to maintain the best possible margin. Skin is rarely involved and need not be resected except for the previous incisional biopsy site or drain tract (**Figure 1**). Some surgeons use closed-suction drainage of the final resection bed, but we do not recommend it. If it is used, the drain should be brought out near the incision and no