Selected Papers Presented at the 2007 Meeting of the Musculoskeletal Tumor Society

Editorial Comment

Kristy L. Weber MD, John H. Healey MD

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The meritorious papers selected from the 2007 MSTs meeting comprise a wide range of topics. They underscore the fascinating breadth of orthopaedic oncology. Although the articles are diverse in content, they reflect important areas of research where data are lacking.

One of the challenges in clinical care of patients with metastatic bone disease is how to determine whether a destructive lesion should be stabilized. Assessing the risk of impending fracture is imprecise, and efforts have been made in the past 5 years to utilize more precise imaging techniques to outline indications for treatment. The Mirels classification is widely used as a guideline to stabilize impending fractures, but it was originally validated only for the femur. Evans et al. in this symposium have utilized the Mirels scoring tool to evaluate pathologic lesions in the humerus. From the same institution, Mann et al. are tackling the issue from a more translational angle by developing a murine model of osteolysis. By using non-invasive imaging and finite element modeling, they have developed an algorithm by which to estimate bone strength in the setting of osteolytic lesions. We applaud the institutional efforts to study this problem from both basic science and clinical perspectives.

The survival of patients with osteosarcoma has not changed substantially in the past 25 years and this is

another area where both clinical and basic research efforts are needed. The article by Hugate et al. provides the latest update of a series of 53 patients with osteosarcoma or malignant fibrous histiocytoma of bone treated with intra-arterial cisplatin combined with more traditional intravenous chemotherapy. These patients had an 82% 10-year survival and there was a suggestion of improved local tumor necrosis and ease of surgical resection when compared historically with series of patients treated by standard intravenous protocols. From a translational perspective, Sorenson et al. have developed a murine model of metastatic osteosarcoma. They are evaluating treatment using *Salmonella typhimurium* with or without interleukin-2 in order to cause tumor cell death and harness the power of the local immune system, respectively. This translational work is vital if we hope to improve the survival of patients with osteosarcoma over the next 25 years.

The remaining articles within this collection are unrelated but will improve patient care and contribute to the education of the next generation of orthopaedic oncologists.

Sawamura et al. evaluated a large series of patients treated with rotationplasty for bone sarcomas. They critically investigated the complications associated with this unusual procedure and provided insight into which patients should be indicated for this treatment. Institutions with a long history of orthopaedic oncology have the opportunity to evaluate rare tumors or procedures and this is highly encouraged. Damron et al. have retrospectively reviewed a rare surgical reconstructive tool, the intercalary humeral spacer. With a new design, this spacer provides excellent stability in uniquely selected patients with humeral diaphyseal lesions. Schwab et al. have reviewed the extensive records at Memorial Sloan-Kettering Cancer Center in order to better distinguish the clinical behavior of two histologically similar tumors: low grade juxtacortical osteosarcoma and low grade

K. L. Weber (✉)
Department of Orthopaedic Surgery, Johns Hopkins University,
601 North Caroline Street, Room 5251, Baltimore, MD 21287,
USA
e-mail: kweber6@jhmi.edu

J. H. Healey
Orthopaedic Surgery Service, Memorial Sloan-Kettering Cancer
Center, New York, NY, USA

intramedullary osteosarcoma. They reported indistinguishable rates of recurrence and metastasis. Finally, Frassica et al. critically reviewed the pathology questions on the Orthopaedic In Training Examination for the past five years. They evaluated the specific content and question types in order to identify how to better teach residents prior to the examination.

We compliment the authors on their efforts to bring this information to the orthopaedic community. The data advance the field of orthopaedic oncology and hopefully stimulate others to investigate related research areas. These authors submitted completed manuscripts shortly after the MSTS meeting, and we wish to encourage such timely submissions in the future.