Cancer in the Spine

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Comprehensive Care

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Preface

Recent advances in medical treatment have dramatically changed our approach to many forms of cancer. Nowhere is this more apparent than in our approach to patients with cancer of the spinal column. A scant 30 years ago, spinal tumors were considered largely untreatable. Tumor resection was considered futile, if not mutilating, and radiotherapy was limited in dose and approach to what the spinal cord could bear. Diagnosis often came late, when treatment could only be brought to bear on the sequelae of tumor growth—spinal cord compression and mechanical instability and pain. The seemingly inevitable progression from spinal metastasis to fracture, intractable pain, cord compression, and paresis left the patient bedridden, malnourished, and narcotized, and easy prey for the bedsores, pneumonia, or urinary tract infections that would eventually take their lives. Even today many physicians quietly consider the appearance of a spinal metastasis to be the death knell for their patients with carcinoma.

Early diagnosis, improved screening, and better follow-up screening of those with known primary disease have improved our ability to recognize spinal tumors at an early and more manageable stage. Advances in imaging technology and histological techniques have improved diagnostic accuracy and reduced the need for more invasive techniques that carry greater cost, morbidity, and discomfort for the patient.

Although advances in chemotherapeutic and medical management regimens have improved long-term survival and cure rates for patients with many forms of cancer, advances in supportive medical care have reduced the impact of many attendant systemic problems that rendered patients "too sick" for aggressive therapy or surgery. Improved perioperative and intra-operative management now allows us to accomplish radical resection of spinal tumors considered inoperable just a decade ago.

Advances in radiotherapeutic modalities have simultaneously improved the efficacy of tumor treatment while reducing the collateral damage inherent in approaches of the past. The ability to focus therapy on the tumor itself reduces the risk of injury to the spinal cord and to the overlying skin, permitting more aggressive therapy with a lower complication rate. Newer therapeutic modalities such as brachytherapy and intra-operative radiotherapy allow us to precisely boost radiation doses to tumor foci without causing damage to the sensitive structures nearby.

Improvements in surgical technique have resulted in better survival and cure rates for patients with both primary and metastatic lesions. Prolonged bed rest, necessitated by surgical resection and spinal cord decompression, is largely a thing of the past. Advances in surgical technique, and a quantum leap in spinal instrumentation, now allow surgeons to radically resect lesions at any level of the spinal column with the full expectation that the patient will be up and out of bed within days of surgery. Rapid return to function and independence, combined with more reliable pain relief, makes surgical care a reasonable consideration for many patients previously thought beyond help. New, minimally invasive surgical techniques can provide dramatic pain relief, with greatly reduced morbidity, in even the sickest patients.

Advances in end-of-life care cannot be overlooked either. Patients with cancer fear pain and loss of independence. Improvements in medical pain management allow patients to function independently despite advanced disease, with less impairment of mental function.

More than ever before, care of the patient with cancer of the spinal column requires interdisciplinary cooperation and coordination. Injudicious use of one modality, even in terms of timing, can make it difficult or impossible to safely apply other treatment options in a given patient. A multidisciplinary team, with a broad perspective as to the relative value and risk associated with the many treatment options now available, has the best chance for coordinating care of these challenging patients so that treatment effect is maximized and complications and injury are avoided. Fortunately, the growing recognition that there is much to be gained—that these patients *will* benefit from an aggressive, coordinated approach to cancer management—has spurred greater interest in their care and the collaboration needed to provide that care.

The goal of *Cancer in the Spine: Comprehensive Care* is to provide an overview of the many disciplines involved in caring for patients with cancer of the spine, and to provide some guidance as to how these different modalities may be combined to provide the most effective treatment for today's patients. Although the chapters that follow are rich in technical descriptions and survival data, care and compassion remain the fundamental properties that any physician must bring to these cases. No patient is "too sick" to be helped. There is no such thing as "benign neglect." Sometimes, in the end, all we can offer is to be there, and sometimes, that is what our patients need the most.

Robert F. McLain, *MD*

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