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Prognosis and Diagnosis in the Treatment of Sarcoma

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Study Description

Sarcomas can occur anywhere in the body as they are rare tumors of connective tissue. These are muscles, nerves, tendons, fat and skin tumors. Additionally, these tumors are extremely diverse; come in dozens, having over 80 distinct histological subtypes. About 1%of adult malignancies and 15% of pediatric tumors are caused by them. A multidisciplinary team with competence in sarcoma management, comprising surgeons, pathologists, radiologists and oncologists as well as nurses and physiotherapy specialists are crucially important as these 3 factors make sarcomas extremely challenging to treat.

Prognosis and Targeted Therapy

Metastatic spread is usually *via* the blood, and the lungs are the most common site of metastatic disease. Most patients with intermediate/high-grade sarcoma suffer recurrence or metastatic disease in spite of optimal treatment, including complete surgical resection. Patients with metastatic sarcoma had a poor prognosis in the past because to the limited therapeutic choices available. It appears that the overall survival of individuals with metastatic soft tissue sarcoma has improved in recent years, with the life expectancy increasing from 12 to 18 months.

Gastrointestinal stromal tumor (GIST) was the first soft tissue sarcoma subtype to receive targeted therapy (imatinib, sunitinib, and regorafenib). This has been the paradigm for the targeted therapy in solid tumors. Tyrosine-kinase inhibitors have transformed the prognosis for patients with metastatic GIST since they were introduced. Patients who undergo excision of high-risk malignancies have been approved to get imatinib as postoperative treatment, according to the FDA. Furthermore, a randomized trial of comparison established the combination as an effective salvage schedule particularly in leiomyosarcoma and undifferentiated pleomorphic sarcoma.

Diagnosis and Treatment

A biopsy is necessary to confirm the presence of a sarcoma and its specific subtype as these tumors are so uncommon and diverse, it's vital that a pathologist with vast experience examines the biopsy specimen. If sarcoma is suspected, first diagnostic radiological testing may include a CT or MRI scan. A complete surgical resection with or without radiation is the standard therapy for localized sarcomas. It is absolutely essential that an experienced surgeon conducts the surgery to ensure the best possible outcome. Large randomized trials have demonstrated the benefit of pre- or post-operative radiation in extremity and chest wall sarcomas. Ongoing research examines the role of preoperative radiation in retroperitoneal sarcoma treatment in worldwide randomized trials.

In certain sarcoma subtypes, multi-agent chemotherapy is an essential component of curative management; such subtypes include Ewing, osteosarcoma and rhabdomyosarcoma. Multi-agent chemotherapy for these subtypes and limb-salvage surgery has been among oncology's greatest successes during the last four decades. In conclusion, sarcomas are rare tumors that include tremendous challenges in terms of treatment and drug discovery. In addition, pazopanib, trabectedin, and eribulin have been added to the list of systemic agents that can be used to treat advanced disease in recent years. Additionally, Tyrosine kinase treatment has been revolutionized by its introduction in GIST. Further improvements in the treatment of these diverse diseases will be accomplished with increased international collaboration between clinical researchers and academic scientists.