Clinical and Functional Outcomes of Children Treated for Chest Wall Sarcoma


Methods

Background

• Majority of chest wall tumors in children are sarcoma histology – most commonly Ewing sarcoma, rhabdomyosarcoma, osteosarcoma
• Chest wall sarcomas are treated with chemotherapy, surgery and/or radiation
• Surgical resection can cause scoliosis, cosmetic disfigurement, chronic pain, activity restriction
• Radiation can cause pulmonary or cardiac dysfunction, functional impairment, chest wall hypoplasia
• Recent single institution data >10% with functional impairment and 11-25% rate of scoliosis development
• We present the largest multi-institutional data set of oncologic and functional outcomes for children treated for chest wall sarcoma

Results

• 175 patients
  - Median age 13 years (IQR 9-16)
  - 144 patients had surgery
    - Median of 2 ribs resected (IQR 1-3)
    - 65% (n=93) had an R0 resection
    - 69% (n=103) patients reconstructed
    - 3.8 year follow up (IQR 1.8-6.8)
    - 23 patients developed scoliosis
      - Median Cobb angle 26 (IQR 15.8-34.4)
      - 9 (9/23, 39%) patients needed corrective spinal surgery
• 44 patients had a local recurrence
  - 88% (n=39) survived to local recurrence
  - 12% (4/39) patients died

Conclusions and Future Directions

• Chest wall sarcomas are treated with multimodal therapy
• Scoliosis develops in a minority of patients
  - Associated with posterior rib resection and increasing number of ribs resected
• No statistically significant difference in local recurrence but overall survival trends toward significance
• Future directions: prospective survey of quality of life and functional outcomes

References


Acknowledgements

Thank you to Dr Lautz, my research mentor, and all those in the Pediatric Surgical Oncology Research Collaborative for participating on this important project.