

Regional Anesthesia is Associated with Improved Metastasis Free Survival after Surgical Resection of Bone Sarcomas

Bijan Abar¹, Amanda Nicole Fletcher, Elizabeth J Sachs, Alexander Leandros Lazarides, Andrew Wong, Brian E Brigman, Amanda Kumar, Sin-Ho Jung², Julia Dawn Visgauss

¹Duke, ²Duke University

INTRODUCTION: There is increasing evidence that perioperative factors, including type of anesthesia, may be an important consideration regarding oncological disease progression. Previous studies have suggested that regional anesthesia can improve oncological outcomes by reducing the surgical stress response that occurs during tumor resection surgery and that may promote metastatic progression. The purpose of this study is to provide the first robust investigation of the impact of adding regional anesthesia to general anesthesia on oncological outcomes following sarcoma resection.

METHODS:

We retrospectively analyzed 100 patients who underwent a primary bone sarcoma resection surgery by an orthopaedic oncologist from 2007 -2017 at a single institution. The cohort was divided into 2 groups. Group 1 consisted of 24 patients who only received general anesthesia and Group 2 consisted of 76 patients who received regional anesthesia in a addition to general anesthesia. The primary oncological outcome of this study was metastasis-free survival (MFS), defined as the time from primary resection to the first evidence of distant metastasis or death.

RESULTS:

After adjusting for confounding variables such as age and grade of the tumor, patients with bone sarcoma receiving regional anesthesia in addition to general anesthesia during resection had improved metastasis free survival (multivariate HR of 0.47 and p = 0.034).

DISCUSSION AND CONCLUSION:

The results from this study provide evidence that regional anesthesia may be advantageous in the setting of bone sarcoma resection surgery, reducing pain while also improving oncological outcomes and should be considered when clinically appropriate.

