Effect of neoadjuvant treatment in the management of osteosarcomas of the head and neck.

Osteosarcomas of the craniomaxillofacial region in adults are rare malignant tumors with many sites of origin. The purpose of this study was to analyze the outcome of adult patients suffering from osteosarcomas and investigate whether neoadjuvant chemotherapy would be beneficial to overall outcome. The medical records of 36 patients treated during 2002-2012 were reviewed. All patients suffered from primary osteosarcomas of the craniomaxillofacial region. The mean survival of patients was 64.49 ± 23.52 months. The 2- and 5-year overall survival rates in the neoadjuvant treatment group were 100 and 66.7%; in the surgery only group, the overall survival rates were 66.7 and 41.7%, respectively. The neoadjuvant treatment ($p = 0.017$), tumor size ($p = 0.004$), tumor location ($p = 0.02$), and age ($p < 0.0001$) were significant parameters influencing survival, whereas other tumor-related or demographic factors had no significant influence on survival. Early identification of osteosarcoma of the craniomaxillofacial region and combined treatment by neoadjuvant chemotherapy with radical surgery are the most important strategies in dealing with these sarcomas. If possible, this treatment option should be followed unless contraindicated by other factors.