Title: Trends in Surgery for Sinonasal Malignancy between 1988 and 2009.

Authors: David Ouyang, Ivan ElSayad, Sue Yom  
Institutions: 1. Department of Radiation Oncology, University of California San Francisco, San Francisco, CA, United States, 2. Department of Otolaryngology, University of California San Francisco, San Fancisco, CA, United States

Objective/Hypothesis: Sinonasal carcinomas are a collection of highly morbid neoplasms originating from the nasopharynx and sinuses. Over the last two decades, an aggressive combination of surgery, radiation, and chemotherapy has been used to treat sinonasal malignancies. We sought to characterize the trends in initial management of sinonasal malignancy and the impact on hospital volume on the surgical care and outcomes.

Study Design: Retrospective cross-sectional study.

Methods: We performed a retrospective cohort study with times trends of patients admitted for surgical resection of sinonasal malignancy in the National Inpatient Sample (NIS) between 1988 and 2009. Subset analysis was performed on patient cohorts with skull base involvement, orbit or maxillary involvement, or requiring radical neck dissection. Patient characteristics as well as hospital attributes were correlated with patient morbidity and mortality.

Results: Over the course of 22 years, we identified 3850 cases of sinonasal surgery patients from 1214 hospitals. 30 (0.8%) cases resulted in death and 572 (14.9%) cases had surgical complications. Greater patient age was associated with higher morbidity and mortality. Complicated cases requiring neck dissection, had skull base or orbital involvement had higher rates of complications but were not associated with higher mortality. High volume hospitals were associated with higher complication rates, but this trend was associated with overrepresentation of complicated cases with skull base involvement, orbital involvement, and neck dissection.

Conclusions: This study reflects changing trends in the epidemiology and primary management of sinonasal cancer. High-volume centers more frequently have complicated cases.