Transoral approach complications

In the past, spine surgeons have avoided the transoral approach to the atlantoaxial segment because of concerns for unacceptable patient morbidity.

There are some significant risks associated with this approach, however, including infection, CSF leak, prolonged intubation or tracheostomy, need for nasogastric tube feeding, extended hospitalization, and possible effects of phonation.

The objective of a study was to measure 30-day postoperative complications, especially surgical site infection (SSI), after transoral versus posterior approach to atlantoaxial fusion. METHODS The source population was provided by the American College of Surgeons National Surgical Quality Improvement Program database, which was queried for all patients who underwent atlantoaxial fusion for degenerative/spondylotic disease and/or trauma between 2005 and 2014. To eliminate bias from unequal sample sizes, patients who underwent the transoral approach were matched with patients who underwent the posterior approach (generally 1:5 ratio) based on age ± 5 years and modified frailty index score (a measure of preoperative comorbidity burden). Because of rare SSI incidence, adjusted odds ratios (ORadj) of SSI were calculated using penalized maximum likelihood estimation. RESULTS A total of 318 patients were included in the study. There were no statistically significant differences between the transoral cohort (n = 56) and the posterior cohort (n = 262) in terms of 30-day postoperative individual complications, including SSI (1.79% vs 1.91%; p = 0.951) and composite complications (10.71% vs 6.87%; p = 0.323). Controlling for sex and smoking, the odds of SSI in the transoral approach were almost equal to the odds in the posterior approach (ORadj 1.17; p = 0.866). While the unplanned reoperation rate of 5.36% after transoral surgery was higher than the 1.53% rate after posterior surgery, the difference approached, but did not reach, statistical significance (p = 0.076). CONCLUSIONS Transoral versus posterior surgery for atlantoaxial fusion did not differ in 30-day unexpected outcomes. Therefore, spinal pathology, rather than concern for postoperative complications, should adjudicate the technical approach to the atlantoaxial segment [1)].

1)
Macki M, Basheer A, Lee I, Kather R, Rubinfeld I, Abdulhak MM. Surgical site infection after transoral versus posterior approach for atlantoaxial fusion: a matched-cohort study. J Neurosurg Spine. 2018 Jan;28(1):33-39. doi: 10.3171/2017.5.SPINE161064. Epub 2017 Oct 27. PubMed PMID: 29076762.