

Cerebrospinal Fluid Leak After Endoscopic Endonasal Pituitary Surgery: The Role of Obesity. A Single Center Experience

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Introduction

Endoscopic endonasal approaches have revolutionized the field of skull base surgery. Development of these approaches has resulted in corridors to larger and previously inaccessible tumors. Despite recent advancements in reconstruction one of the primary postoperative concerns is cerebrospinal fluid leak. Perhaps the most widely cited technique to prevent CSF leak is the implementation of the vascularized pedicled nasospetal flap. The largest experience has been published by Fraser et al out of the University of Pittsburgh. In a study of 615 patients they found a leak rate of 16.7%. They cited a statistically significantly higher leak rate in overweight and obese patients (BMI greater than 25) with a statistically significant decline in this population with the use of pedicled nasoseptal flap. In this abstract we present our single center experience with CSF leak after endoscopic endonasal surgery.

Methods

A retrospective review of all endoscopic endonasal approaches for pituitary tumors from 2006 to 2016 was conducted. 242 cases were identified and included for review. Both patient and tumor factors were examined. Patient demographics included: age, sex, weight, height, BMI and past medical history. Tumor factors included: size, location/approach, reconstruction method and pathology.

Results

Of 242 cases 145 (60%) patients were overweight or obese as defined as BMI greater than 25. 15 (10.3%) of these patients suffered postoperative CSF leak. Of the remaining 97 patients who had a BMI less than 25 only 2 had a CSF leak (2.1%). This result reached statistical significance with a p value less than .05. Method of reconstruction was not found to be statistically significant in preventing CSF leak. Our overall leak rate was 7%.

Conclusions

BMI greater than 25 is an independent risk factor for development of CSF leak after endoscopic endonasal surgery.

Learning Objectives

By conclusion of this session, participants should be able to describe the incidence and risk factors for development of CSF leak after endoscopic endonasal surgery

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