When to Resume Continuous Positive Airway Pressure Devices for Obstructive Sleep Apnea Following Transsphenoidal Surgery: An Institutional Experience

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CNS 2017 ANNUAL MEETING
BOSTON, MASSACHUSETTS
OCTOBER 7–11, 2017

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Introduction

Transsphenoidal surgery creates a skull base defect that places patients at risk for developing postoperative spinal leak and pneumocephalus. Obstructive sleep apnea (OSA) is commonly treated with continuous positive airway pressure devices (CPAP). There is a clinical concern that patients undergoing transsphenoidal surgery are at risk for disturbing the skull base repair by resuming CPAP before the skull base is healed.In this study, we present our institutional experience managing patients who use CPAP for OSA.

Methods

A retrospective analysis of patients with a diagnosis of OSA treated with CPAP who underwent transsphenoidal surgery between May 2013 and September 2016 was conducted using data collected from both inpatient and outpatient clinical records. CPAP was resumed at the discretion of the treating team based on intraoperative findings and severity of the patients' airway concerns. Complications related to withholding CPAP and resuming CPAP were recorded.

Results

Of 544 patients who underwent transsphenoidal surgery performed for pituitary pathology, 42 patients (8%) used CPAP preoperatively. In 20 patients, intraoperative CSF leak was repaired in a multilayered fashion. 38 patients resumed CPAP at a median of 3 weeks after surgery (range 0.14-52 weeks). 4 patients did not resume CPAP. There were no cases of postoperative CSF leak or pneumocephalus either before or after resuming CPAP. 4

patients (9.5%) required supplemental home oxygen. No patients required re-intubation for pulmonary complications of OSA.

Conclusions

Resumption of CPAP in patients with OSA did not result in any intracranial complications. However, the delay in resuming CPAP resulted in 4 patients requiring home oxygen. This study represents a first step to understanding the management of OSA in this patient population. We present a proposed treatment algorithm based on the size of intraoperative spinal fluid leak to help guide management and serve as the foundation for prospective evaluation of this common clinical scenario.

Learning Objectives

By the conclusion of this session, participants should be able to 1) understand the risks of withholding CPAP after surgery, 2) the risks of restarting CPAP, and 3) when to consider safely restarting CPAP after surgery.

References