Adenotonsillectomy for the Treatment of Obstructive Sleep Apnea in Children with Prader-Willi Syndrome: A Meta-analysis.

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MEDIFIND SUMMARY

Summary: The study researched the effects of adenotonsillectomy for treating obstructive sleep apnea in children with Prader-Willi syndrome.

Conclusion: Adenotonsillectomy may improve obstructive sleep apnea in children with Prader-Willi syndrome but will not always cure it.

ABSTRACT

Objective: Adenotonsillectomy outcomes in obstructive sleep apnea (OSA) treatment among children with Prader-Willi syndrome (PWS) remain unclear. This study aimed to elucidate the effectiveness of adenotonsillectomy in OSA treatment among children with PWS.

Methods: PubMed, MEDLINE, Embase, and Cochrane Review up to February 2019. Methods: The registry number of the protocol published on PROSPERO was CRD42015027053. Two authors independently searched the relevant database. Polysomnography outcomes in these children were examined, including net postoperative changes in the apnea-hypopnea index (AHI), net postoperative changes in the minimum and mean oxygen saturation, the overall success rate for a postoperative AHI <1, and the overall success rate for a postoperative AHI <5.

Results: Six studies with 41 patients were analyzed (mean age, 5.0 years; 55% boys; mean sample size, 6.8 patients). All children had PWS and received adenotonsillectomy for the treatment of OSA. The AHI was 13.1 events per hour (95% CI, 11.0-15.1) before surgery and 4.6 events per hour (95% CI, 4.1-5.1) after surgery. The mean change in the AHI was a significant reduction of 8.0 events per hour (95% CI, -10.8 to -5.1). The overall success rate was 21% (95% CI, 11%-38%) for a postoperative AHI <1 and 71% (95% CI, 54%-83%) for a postoperative AHI <5. Some patients developed velopharyngeal insufficiency postoperatively.

Conclusions: Adenotonsillectomy was associated with OSA improvement among children with PWS. However, residual OSA was frequently observed postoperatively in these patients.