CORRESPONDENCE

Tonsillectomy With Uvulopalatopharyngoplasty in Obstructive Sleep Apnea—a Two-center Randomized Controlled Trial

by PD Dr. med. J. Ulrich Sommer, Dr. med. Clemens Heiser, Dr. med. Constanze Gahleitner, Dipl. rer. soc. Raphael M. Herr, Prof. Dr. med. Karl Hörmann, Dr. med. Joachim T. Maurer, and Prof. Dr. med. Boris A. Stuck in issue 1–2/2016

Dr. med. Matthias Boentert
Universitätsklinikum Münster
matthias.boentert@ukmuenster.de

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Reasons for Refusal Were not Given

The present study included adults with obstructive sleep apnea (OSA) syndrome, tonsillar hypertrophy, and velopharyngeal obstruction. The patients had either refused nocturnal continuous positive airway pressure (CPAP) therapy or were CPAP intolerant (1).

In the methods section, the authors do not explain the study participants' reasons for refusing CPAP treatment. In the discussion section they do not refer to the factors that affect long-term adherence to CPAP therapy. These include a well-fitting mask, the quality of professional support, and therapeutic effects such as improved sleep quality and reduced daytime sleepiness (2). Thus, treatment-associated problems may successfully be addressed by adequate patient education, mask training, and air humidification which may all help to avoid CPAP failure. Since these measures may not yield the desired success within the first two weeks of therapy it may happen all too early that CPAP treatment is considered a failure.

CPAP therapy is the gold standard in the treatment of OSA, and under sleep laboratory conditions it has been shown to lower the apnea-hypopnea index (AHI) to normal values. Unquestionably this cannot be achieved in many patients in their domestic environment, and achieving optimal adherence to treatment is an ongoing therapeutic task. But there is no reason to put up with a mere part-reduction of the AHI with regard to the effects of surgical treatment. An average postoperative AHI of 15.4/h (standard deviation up to 14.1/h!) and non-significant changes of both the desaturation index and t <90% (duration of desaturation) do not represent a therapeutic success that would justify the effort, costs, and risks of surgical intervention. Furthermore, if the residual AHI is 15/h or higher, the cardiovascular risk which is associated with OSA would probably not be substantially reduced.

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Further Long-term Studies Are Required

The authors described the results of a controlled randomized study of combined tonsillectomy-uvulopalatopharyngoplasty (TE-EPPP) in patients with obstructive sleep apnea (OSA) and tonsillar hypertrophy with velopharyngeal obstruction (1). The study results imply that TE-UPPP results in selected patients in a reduction of the apnea-hypopnea index (AHI) and daytime sleepiness. However, a closer look reveals several limitations.

Relevant tonsillar hypertrophy can undoubtedly constitute the reason for defining the indication for tonsillectomy in children and adults with OSA. Furthermore, however, it should be borne in mind that the risk of oropharyngeal obstruction is also determined by other static (anatomy) and dynamic (pharyngeal muscle tone, position of the body) factors. It is likely to be due to the complexity of these associations that thus far, no surgical treatment approach to OSA has been found to be of similar effectiveness for reducing the AHI as CPAP therapy. The question will have to remain unanswered as to which degree of tonsillar hypertrophy is relevant, and for which patients it can be reliably predicted that they would benefit from surgery with regard to AHI and daytime symptoms. Additionally, the present study did not show whether additional UPPP offers additional benefits over solely tonsillectomy or not.

In the study the mean follow-up period was 4.4 months. As the authors rightly say, no conclusions about the long term effectiveness of the surgical treatment can be drawn from this. Several factors in the study give rise to the suspicion that at least one third of patients whose surgery was initially successful will over time again exceed the threshold to OAS requiring treatment (2, 3). For this reason, further long term studies are required that take account of the different surgical approaches and that focus on the stratification of appropriate groups of patients.

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Prof. Dr. med. Peter Young
Universitätsklinikum Münster
peter.young@ukmuenster.de

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In Reply:

The authors wish to express their thanks for the constructive criticisms and the opportunity to explain ourselves. The reasons for CPAP intolerance are manifold, and thanks to our longstanding experience with CPAP therapy we are fully aware of the measures to improve compliance. As we explained earlier, the patients had refused CPAP in spite of exhaustively trying out such measures. CPAP therapy in general and the options for improving compliance in particular were, however, not the subject of our study, and we therefore did not include a detailed discussion of the topic (1).

The authors agree that if CPAP works satisfactorily there will usually be no indication for surgery. It is well known that OSA is a multifactorial syndrome, and awareness of this fact can indeed make surgery more difficult. For this reason, we believe that it is even more important to conduct controlled studies of surgical methods.

A comparison of different therapeutic approaches for treating OSA cannot be based solely on the respiratory indices achieved in the sleep laboratory, but it also has to consider the aspects acceptance, adherence, and compliance. A reduction of the AHI by means of a surgical procedure can therefore be more effective in an individual case than CPAP therapy, which on polysomnography reduces the AHI more notably but which is insufficiently used in everyday life. The effort and expense of years of CPAP therapy and a once-only operation, such as TE-UPPP, have not been compared so far, but any comparison would probably come out in favor of surgery. The very few studies that have compared cardiovascular mortality associated with CPAP with that associated with TE-UPPP did not show superiority for CPAP (2, 3).

The observation that no similarly effective reduction of the AHI has been shown for any surgical procedure for OSA compared with CPAP therapy so far is not accurate and requires further comment. The most effective treatment for OSA is probably tracheotomy, although no comparative studies exist in this setting, and it is recommended only as a measure of last resort because of the associated morbidity. A prospective randomized study between CPAP therapy and maxillomandibular advancement (MMA) showed comparable efficacy for both procedures (4, 5).

The comment that the study did not show any advantage for TE-UPPP over tonsillectomy alone is correct, but such a comparison was not the subject of our study. The call for long term studies deserves support, but this cannot be implemented in the form of a controlled study design with an untreated control group.

Both methods, CPAP and surgery, have their specific indications, limitations, benefits and risks, which have to be weighed up in each individual case. Patients should be informed about the available procedures with the necessary objectivity, and patients' own wishes should be considered in making the decision, in the same way as happens for other disorders and therapeutic approaches.

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PD Dr. med. J. Ulrich Sommer
Universitäts-HNO-Klinik Mannheim
Ulrich.Sommer@umm.de

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