

### **Intranasal Beclomethasone Spray for Adenoidal Hypertrophy**

*[Demain JG, Goetz DW. Pediatric adenoidal hypertrophy and nasal airway obstruction: Reduction with aqueous nasal beclomethasone. Pediatrics 1995, 95: 355-364.]*

This double-blind, placebo-controlled, cross-over study aimed at analyzing the efficacy of standard-dose topical nasal beclomethasone in reducing significant chronic adenoidal obstruction of the nasal airway in children, as an alternative to adenoidectomy. Seventeen children, 5-11 years of age exhibiting chronic obstructive nasal symptoms and an estimated 90% or greater adenoidal obstruction of the nasal airway, were recruited for the study. After detailed clinical and investigative assessment (including sinus roentgenograms, audiogram and rhinoscopy), the subjects were individually randomized to receive either 4 weeks intranasal beclomethasone spray followed by 4 weeks of placebo (with consistency and scent similar to the active drug) or the two drugs in reverse order. During the 8 week cross-over study, patients dispensed 2 sprays of the drug or placebo, directed towards the posterior nasal cavity twice daily (336 ug drug/day). At the completion of 8 weeks, subjects continued in a 16 week open assessment of intranasal beclomethasone spray, twice a day in each nostril (168 ug/day). Follow up assessments, at 4, 8, 16 and 24 weeks included recording parental assessment of degree of symptomatic relief, drug

compliance and side effects. Apart from tympanometry and audiometry, adenoid size was reassessed by means of rhinoscopy and planimetry of the colored transparencies of the posterior choanae and adenoids, at all subsequent evaluations.

Over the initial 4 weeks, improvements in the mean adenoidal obstruction of choanae were significantly greater in the beclomethasone group than in the group receiving placebo ( $p < 0.01$ ). In the subsequent 4 weeks, all patients demonstrated a decrease in adenoid size with beclomethasone treatment, compared with a mixed response to placebo. Over the full 8 weeks, the mean obstructive symptom score after beclomethasone therapy was observed to be significantly improved compared to the patient's initial and placebo scores ( $p < 0.05$ ), despite the active drug carry-over effect into the placebo treatment period. Significant improvements in adenoidal obstruction and symptom score over the 8 week cross-over study were enhanced in the subsequent 16 week open label period ( $p < 0.01$ ). By 24 weeks, an 82% reduction in group mean nasal obstruction symptom score accompanied a 29% mean reduction in adenoid/choanal ratio, with a reduction in frequency of upper airway and ear infections. Apart from obvious improvement in nasal obstructive symptoms, a significant decrease in nocturnal enuresis frequency was noted in the group receiving beclomethasone, indicating improved quality and quantity of sleep. No clinical or demographic characteristic was found to be predictive

of patient's degree of response to treatment. It was concluded that properly administered aqueous nasal beclomethasone can significantly reduce adenoidal hypertrophy and nasal airway obstructive symptoms in children.

**Comments**

For long, adenoidectomy has been the only definitive treatment for relief of upper airway obstruction and diseases complicated by or attributable to adenoidal hypertrophy (1). Medical alternatives to adenoidectomy are usually directed towards providing transient symptomatic relief or treating concurrent infections. Systemic steroids have been tried successfully as a suppressive therapy for adenoidal hypertrophy(2), but significant side effects preclude their chronic use. Long term use of inhaled steroids has proven safe and effective in the treatment of asthma and allergic rhinitis(23), but the role of topical steroids in nasal airway obstruction due to adenoidal hypertrophy needs evaluation. This study clearly demonstrates efficacy and safety of topical nasal beclomethasone, administered over several weeks, in relieving symptoms of nasal airway obstruction attributable to adenoidal hypertrophy. Reduction in the adenoid size may be due to a direct lympholytic action of topical steroids on adenoid tissue or a general corticosteroid inhibition of inflammation in the respiratory tissues(4). It, however, remains

to be proven, whether the effect of topical steroids is sustained after the complete withdrawal of therapy. The optimal duration of therapy and the safety of use over such duration also remain undefined, as yet.

If similar efficacy and safety can be demonstrated in further long term controlled trials, topical steroids may provide a safe and effective mode of management of airway obstruction due to adenoidal hypertrophy, at least till the time the child outgrows the obstruction, and may altogether obviate the need for adenoidectomy.

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**REFERENCES**

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2. Reilly JS. Tonsillar and adenoid airway obstruction: Modes of treatment in children. *Int Anaesthesiol Clin* 1988, 26: 54- 57.
3. Warner J, Gotz M, Landau L, *et al.* Management of asthma: A consensus statement. *Arch Dis Child* 1989, 64:1065-1071.
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**NOTES AND NEWS**

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**SECOND STATE-OF-THE-ART WORKSHOP ON NEONATAL  
RESUSCITATION**

A State-of-the-art workshop on Neonatal Resuscitation is being organized by the Department of Pediatrics, AIIMS, New Delhi on 15th September, 1996 (9.00 a.m. to 5.00 p.m. in the Conference Hall). The workshop is targeted for practicing pediatricians/obstetricians and postgraduate students. Registration would be limited to 50 participants on the first come first served basis. Please send the draft/cheque of Rs. 250 drawn in favor of CME in Neonatology, AIIMS, New Delhi 110 029, latest by 31st July, 1996. Participants will be provided with resource book six weeks before the workshop. Please note there will be no provision for spot registration. For further details, please contact: Dr. Ashok K. Deorari, Associate Professor, Department of Pediatrics, AIIMS, New Delhi 110 029.

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**THIRD NATIONAL CONFERENCE OF ASSOCIATION OF PEDIATRIC  
OTOLARYNGOLOGISTS OF INDIA**

This event is to be held on September 7th and 8th, 1996 at Bombay Hospital, Mumbai. The Chairman is Dr. N.K. Apte, the President is Dr. N.L. Hiranandani and the Secretary is Dr. Chaitan Bhatt. The Registration Fee is Rs. 500/- (till June 15th) or (Rs. 600/- till July 31st) or (Rs. 800/- after July 31st). Demand Draft to be made in favor of "Third National Conference Association of Pediatric Otolaryngologists of India". For further details please contact Dr. N.L. Hiranandani, A-3, Amerchand Mansion, Madam Cama Road, Next to Golden Gate Restaurant, Near Regal Cinema, Mumbai 400 039.