

protein X (U-EPX) in children is not clear-cut (1). As part of a study of the medical, psychological, and social determinants of quality of life (QoL) in childhood asthma, we wished to examine this relationship.

All 55 consecutive 7–9-year-old children with asthma and their families attending a hospital asthma/allergy clinic and all 16 attending a local pediatric clinic were approached. A total of 61 children (86%) participated, 36 boys and 25 girls.

U-EPX was analyzed from a frozen first morning urinary sample by the Pharmacia radioimmunoassay method. Asthma-specific QoL was measured with the Swedish version of the Paediatric Asthma Quality of Life Questionnaire (2). Peak expiratory flow rate (PEFR) was measured with a MIR Spirobank[®] portable spirometer, as the best of three values, without termination of any medication, and expressed as percentage of expected rate with adjustment for sex and height (3). Parental scoring from 0 to 3 of daytime coughing/wheezing, exercise-induced symptoms, nighttime awakening, and absence from school due to asthma was summed to a 1-week symptom score. According to the child's medical records (clinical grading), 11 children had mild asthma, 40 moderate, and 10 severe disease by the criteria given by Barnes & Godfrey (4). Nonparametric rank correlation was used for statistical analysis.

Relation to PEFR, but not general severity, in children.

Median U-EPX was 88.6 µg/mmol creatinine (95% confidence interval 67.5–135.7 µg/mmol), with no difference between boys and girls. In healthy children of the same age group, Lugosi et al. found median U-EPX 35.3 µg/mmol (95% CI 25.9–50.2 µg/mmol) with the same method of analysis as ours (5).

As seen in Table 1, U-EPX is related to PEFR, as shown earlier (5), but not to other severity measures.

The severity measures based on the child's own understanding (asthma-specific QoL), parental perception (symptom score), and the physician's interpretation (clinical grading) interrelate, indicating the validity of the measures.

In conclusion, U-EPX and PEFR reflect an aspect in common of the asthmatic response, but our findings give no further support for applying U-EPX as a general measure of disease severity in childhood asthma.

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A new concept for treatment of sinonasal polyposis

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Key words: antileukotrienes; sinonasal polyposis; therapy.

● NASAL polyposis is considered to be a non-IgE-mediated inflammatory condition of the nose and sinuses, often associated with chronic nonallergic rhinitis, aspirin intolerance, and nonallergic asthma (1). Despite recent improvements in endonasal surgery

Oral corticosteroids in combination with antileukotrienes might be a promising approach.

(e.g., ethmoidectomy and functional endoscopic sinus surgery), diffuse nasal polyposis remains a challenge. Surgical procedures alone are insufficient to treat the underlying inflammation of the nasal

Table 1. Urinary eosinophil protein X (U-EPX) and asthma severity measures: asthma-specific quality of life (QoL), peak expiratory flow rate (PEFR), parental symptom score, and physician's clinical grading. Rank correlation (Spearman's rho), one-tailed *P*, *n* = 61

	U-EPX	<i>P</i>	QoL	<i>P</i>	PEFR	<i>P</i>	Symptom score	<i>P</i>
QoL	–0.044	0.367						
PEFR	–0.280	0.015	0.300	0.009				
Symptom score	–0.086	0.254	–0.395	0.001	–0.110	0.199		
Clinical grading	–0.025	0.425	–0.218	0.045	–0.016	0.451	0.396	0.001

mucosa. Supplementary medical treatment is always necessary to prevent recurrence (1). Treatment with oral corticosteroids is sometimes referred to as "medical polypectomy" because steroids have good repressive effects on nasal polyps (2), but there is also a strong tendency to recurrence within 5 months after successful oral therapy (3). However, oral corticosteroids should be used only for short-term treatment due to the risk of systemic side-effects. Intranasal corticosteroids are reserved for the treatment of mild cases (e.g., nasal polyposis). In the past 2 years leukotrienes have been implicated in the mediation of bronchoconstriction and inflammatory changes in asthma. The leukotriene-receptor antagonist montelukast has been shown to produce subjective and objective improvement in patients with mild to moderate asthma (4). Leukotriene levels have also been shown to be elevated in patients with sinonasal polyposis and sinusitis. Recently, an objective alleviation, or at least stabilization, of sinonasal polyposis was reported in 50% of the patients after application of the leukotriene-synthesis inhibitor zileuton or the leukotriene-receptor antagonist zafirlukast (5).

On the basis of these findings, we evaluated the efficacy of short-term oral corticosteroid therapy combined with montelukast in a daily dosage of 10 mg as maintenance therapy in controlling symptoms of severe sinonasal polyposis. Outcome measures included subjective interviews, serial endoscopic examinations, and MRI. We treated nine patients with massive bilateral sinonasal polyposis. All but one patient had repeated surgical polypectomy in the past. Recurrence was observed after 3 weeks ($n=1$), 8 weeks ($n=3$), 12 weeks ($n=1$), and 1 year ($n=3$) after surgery. Nasal blockage (100%) was found to be the major complaint before therapy. Nearly half of the patients initially

suffered from rhinorrhea. In the first 5 days of treatment, 40 mg methylprednisolone was given orally followed by a progressive reduction. Montelukast in a daily dosage of 10 mg was also administered. After day 12, the oral steroid therapy was discontinued. The follow-up period for the first treated patients is now up to 1 year. Meanwhile seven patients experienced subjective improvement of their symptomatology and four out of these seven were even free of symptoms. Anterior rhinoscopy was performed before treatment and then monthly. All patients showed endonasal polyps at the initial visit, five patients reached a polyp-free nasal cavity under treatment, and one patient showed clear regression of nasal polyps. Three patients presented with unchanged findings under anterior rhinoscopy. After 3 months regressive disease was documented by MRI in four patients, whereas in three patients stabilization of sinonasal polyposis was documented. Endoscopic nasal examination findings and MRI results were consistent with the reports of overall benefit ($n=7$). Side-effects of this treatment concept were not observed. Two patients showing strong benefit of this therapy chose to discontinue treatment, and recurrence was observed 4–8 weeks later. All patients, even the two patients with only limited benefit of this therapeutic approach, preferred this therapy to surgical intervention.

We conclude that this new concept in the management of diffuse sinonasal polyposis might be a viable alternative to long-term oral steroid therapy and repeated surgical debridement. According to these preliminary data, oral application of montelukast should not be discontinued due to the risk of recurrence. None of our patients developed progressive disease; therefore, our data show that the leukotriene-receptor antagonist montelukast might play a significant role in the prevention of nasal polyps after surgery.

In view of these promising results, a clinical trial comparing our new therapy concept group to a control group receiving only topical steroids is in progress.

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Severe reaction to lysine aspirin

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Key words: lysine aspirin; severe reaction.

- ADVERSE reactions to aspirin range from rhinoconjunctivitis, urticaria, and