

Aspirin desensitization treatment of aspirin-sensitive patients with rhinosinusitis-asthma: Long-term outcomes

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Background: Aspirin-sensitive patients with asthma experience continuous inflammation of their nasal and sinus tissues, complicated by recurrent sinusitis, which frequently leads to asthma attacks. Systemic corticosteroid therapy and sinus or polyp surgery are currently required to control underlying rhinosinusitis, and bursts of corticosteroids are used for asthma control.

Objective: After aspirin desensitization therapy, objective measures of respiratory disease activity, linked to the need for systemic corticosteroids and sinus surgery, were studied to determine whether any changes occurred.

Methods: Sixty-five aspirin-sensitive patients with asthma underwent aspirin challenge, followed by aspirin desensitization and daily treatment with aspirin over 1 to 6 years (mean, 3.1 years). Clinical outcome measurements before aspirin desensitization treatment and during follow-up were analyzed for the larger group of 65 patients and subgroups (29 patients receiving therapy for 1 to 3 years and 36 patients receiving therapy for 3 to 6 years).

Results: In the larger group of 65 patients, there were significant reductions in numbers of sinus infections per year (median, 6 to 2), hospitalizations for treatment of asthma per year (median, 0.2 to 0), improvement in olfaction (median, 0 to 2), and reduction in use of systemic corticosteroids (mean, 10.2 to 2.5 mg) with *p* values less than 0.0001. Numbers of sinus and polyp operations per year were significantly reduced (median, 0.2 to 0; *p* = 0.004), and doses of nasal corticosteroids (in micrograms) were significantly reduced (mean dose, 139 to 106 µg, *p* = 0.01). Emergency department visits and use of inhaled corticosteroids were unchanged.

Conclusions: The results support a role for aspirin desensitization treatment of aspirin-sensitive patients with rhinosinusitis-asthma. (*J Allergy Clin Immunol* 1996;98:751-8.)

Key words: Aspirin, asthma, desensitization, histamine, leukotriene, nonsteroidal antiinflammatory drugs

Aspirin-sensitive rhinosinusitis-asthma is characterized by aggressive inflammation of the respiratory tract with progressive nasal polyposis, sinus-

Abbreviations used

GCRC: General Clinic Research Center
LT: Leukotriene
NSAIDs: Nonsteroidal antiinflammatory drugs

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itis, and asthma, despite avoidance of aspirin and nonsteroidal antiinflammatory drugs (NSAIDs).¹ Patients with this disease ordinarily require topical and systemic corticosteroids and experience unfortunate side effects from these latter drugs. Multiple surgical interventions to remove polypoid tissue and debride infected sinuses are often necessary. Alternative therapeutic strategies to control respiratory tract inflammation are desirable.

TABLE I. Reasons for discontinuing aspirin desensitization therapy in 10 patients

Patient No.	Date of study entry	Months of aspirin treatment	Discontinuation events
1	03/90	42	Esophagogastritis
2	01/92	01	Gastritis (pain)
3	03/92	06	Gastritis (pain)
4	07/93	03	Gastritis (pain)
5	07/93	05	Gastritis (pain)
6	07/93	14	Decision to become pregnant
7	08/93	07	Gastritis (bleeding)
8	09/93	02	Gastritis (bleeding)
9	12/93	06	Gastritis (pain)
10	02/94	07	Gastritis (pain)

All aspirin-sensitive patients with asthma can be desensitized to aspirin with cautious incremental oral aspirin challenges.²⁻⁸ Once desensitized to aspirin, patients can ingest as little as 81 mg of aspirin daily on a continuous and indefinite basis without further respiratory reactions to aspirin or NSAIDs.⁸ Published reports have suggested that aspirin desensitization, followed by daily treatment with aspirin, is associated with clinical improvement in underlying inflammatory respiratory disease.^{2, 6, 9-15} In 1990, we reported¹⁵ the clinical course of three groups of aspirin-sensitive patients with asthma: avoidance of aspirin (42 patients), continuous treatment with aspirin after desensitization (35 patients), and discontinuation of aspirin after short-term treatment (30 patients). Although the continuous aspirin therapy group of 35 patients enjoyed favorable courses, when compared with those who discontinued or avoided aspirin, problems with patient dropout because of misperceived side effects from aspirin and small sample size limited the information derived from this study.

This report documents clinical outcomes in 65 known aspirin-sensitive patients with asthma who were desensitized to aspirin after 1988 and then treated with daily aspirin. Because of the large population of aspirin-sensitive patients available for follow-up, subanalysis of clinical courses in both short-term (1 to 3 years) and long-term (3 to 6 years) treatment groups was then possible.

METHODS

Patients

Between 1988 and 1994, 78 adult patients with asthma were proven to have aspirin respiratory sensitivity during oral aspirin challenges¹⁶ performed in the General Clinic Research Center (GCRC) of the Green Hospital

of Scripps Clinic. Aspirin sensitivity was defined as a decline of 20% or more in FEV₁ and/or naso-ocular reactions within 3 hours after incremental oral aspirin challenges. All patients underwent a full-day placebo challenge on the day before aspirin oral challenges.¹⁶

Of the original 78 patients, three were lost to follow-up, and 10 discontinued aspirin treatment for reasons presented in detail in Table I; therefore, 65 patients constituted the study population for which clinical courses were analyzed before and during continuous treatment with aspirin. For these 65 patients, duration of aspirin-sensitive respiratory disease ranged from 1 to 35 years (mean, 10.5 years) before aspirin challenge and desensitization, and duration of aspirin desensitization treatment after aspirin desensitization ranged from 1 to 6 years (mean, 3.1 years). Patients volunteering for aspirin desensitization treatment tended to have severe respiratory disease: 31 of 65 were taking doses of prednisone of 10 mg/day or more over the 12 months preceding entry into the study. For the group of 65 patients, 185 sinus and/or polyp operations (average, one operation every 3 years) had been carried out before entry into the study.

Aspirin desensitization treatment

Patients were desensitized to aspirin in the GCRC of Green Hospital with increasing doses of aspirin during oral challenges until 650 mg of aspirin was tolerated without any adverse signs or symptoms.^{7, 8, 16} Those patients without anatomic nasal obstruction, deviated nasal septum, or large obstructing nasal polyps rapidly experienced substantial improvement in nasal patency, which is typical of the aspirin desensitization process, and some noted immediate return of the sense of smell. After aspirin desensitization, all patients began a treatment program of 650 mg of aspirin twice daily and were discharged to be followed up by their referring physicians. Only four of 65 patients were followed up and treated by one of the authors of this article; the remaining 61 patients were followed up by their local physicians, 89% of whom are board-certified allergy and immunology specialists. The dosage of aspirin was adjusted upward for two patients who had persisting nasal congestion while taking 650 mg twice daily and downward for patients who experienced gastric side effects. One patient experienced tinnitus, and his dose was reduced to 325 mg twice daily with disappearance of tinnitus. Ten patients, under direction of their physicians, were able to slowly reduce aspirin dosages without reappearance of nasal congestion; final maintenance doses of aspirin ranged from 325 mg daily to 650 mg three times daily with a mean daily dosage for the group of 1214 mg of aspirin. Aspirin tablets (325 mg) were in the form of either Ascriptin, Ecotrin, or plain aspirin.

Patients were generally treated in a similar fashion, both before and after aspirin desensitization, and in accordance with international guidelines for management of asthma.¹⁷ Long-term use of intranasal and

inhaled corticosteroids and discontinuation or reduction of systemic corticosteroids to minimum effective dose were emphasized by practitioners who followed up the patients. Surgery for intractable polyposis or sinusitis was undertaken when polyps or sinusitis recurred, and this was necessary in 17 of 65 patients during aspirin desensitization therapy.

All patients underwent re-evaluation of their clinical status by means of questionnaires and telephone interviews between January and March 1995. Compiled data were compared with that collected before aspirin desensitization therapy by using a standard Excel computer program (Microsoft, Redmond, Wash.).

Clinical outcomes

On the basis of our experience with patients in the previous study in 1990,¹⁵ we elected to limit outcome measurements to those that could be best quantified and at the same time reflected the clinical events common to patients with aspirin respiratory syndrome. These measurements are outlined in the following sections.

Numbers of sinus infections. In the year before aspirin desensitization and 1 year before re-evaluation (January to March 1995), the numbers of sinus infections were recorded. Sinus infection was defined as appearance of or change to purulent nasal discharge requiring treatment with antibiotics. For 14 patients with chronic and persistent purulent nasal discharge and opacified paranasal sinuses as demonstrated on roentgenograms, scores of 12 per year were assigned, because these patients had an infection in every month of the study year.

Numbers of surgical procedures. Numbers of surgical procedures for treatment of rhinosinusitis, including polypectomies, conducted before desensitization and during the years of aspirin desensitization treatment were recorded. The number of operations divided by the number of years the patients had chronic rhinitis and asthma before entry was compared with the number of operations per year during aspirin treatment.

Hospital admissions. Hospital admissions per year for treatment of asthma were recorded before and during aspirin desensitization treatment. Hospitalizations for surgical procedures were excluded; surgery for treatment of rhinosinusitis was always performed during remissions of asthma.

Emergency department visits. Emergency department visits for treatment of asthma were similarly noted on a per-year basis, and the appropriate comparisons were made. Emergency department visits for any reason other than asthma were excluded.

Symptom scores for sense of smell. Subjective symptom scores for sense of smell were: 0 = no sense of smell, 1 = intermittent partial sense of smell, 2 = intermittent complete sense of smell, 3 = partial sense of smell the majority of the time, 4 = complete sense of smell the majority of the time, and 5 = perfect and continuous sense of smell. Overall subjective scores for the year

before entry were compared with those for the year before re-evaluation in January to March 1995. For example, if for several months after sinus surgery or systemic corticosteroid treatment, smell had completely returned but the remainder of the year the individual was unable to smell, a score of 2 (intermittent complete smell) was recorded for that patient.

Systemic corticosteroids. For purposes of statistical analysis, methylprednisolone, which was used by five patients, was converted to prednisone equivalent at a ratio of 4:5. Of the 65 patients, 16 were not taking prednisone at entry; 15 patients had taken short courses of prednisone for treatment of exacerbations of respiratory disease; 12 were taking prednisone on alternate days; and 22 received daily prednisone. For purposes of statistical analysis, we included alternate day prednisone with daily prednisone by using half of the every-other-day dose for a daily dose equivalent. All patients taking daily prednisone were doing so because of intractable polypoid nasal obstruction and/or ongoing sinusitis and asthma not controlled by nasal and/or inhaled corticosteroids.

Topical corticosteroids for nasal insufflation. Four different nasal corticosteroids were used by the patients (beclomethasone dipropionate, 42 µg/puff by 38 patients; triamcinolone acetonide, 55 µg/puff by four; flunisolide, 25 µg/puff by three; and budesonide 32 µg/puff by one). Of the 19 patients not using nasal corticosteroids at entry, 10 were taking prednisone in dosages of 10 mg/day or higher, five were taking short courses of prednisone for treatment of exacerbations, and four were not taking any corticosteroids. For purposes of comparison and statistical analyses, irrespective of the nasal corticosteroid preparation used, micrograms of corticosteroid consumed each day were recorded for each patient the year before entry and the year before study conclusion during aspirin desensitization therapy.

Topical corticosteroids for bronchial inhalation. Four bronchial inhalation corticosteroids were used by 41 patients (beclomethasone dipropionate, 42 µg/puff by 16; flunisolide, 250 µg/puff by six; triamcinolone acetonide, 100 µg/puff by 17; and budesonide, 250 µg/puff by two). Of the 24 patients not using inhaled corticosteroids, 11 were receiving prednisone, 10 mg/day, or more for treatment of intractable nasal polypoid disease; six were treated with short courses of prednisone for exacerbations of respiratory inflammation; and seven patients were not taking any inhaled or systemic corticosteroids but were using topical nasal corticosteroids. Typically, patients avoiding inhaled or systemic corticosteroid had rhinosinusitis with little or no asthma and sought aspirin desensitization treatment because of aggressive re-formation of polyps and secondary sinusitis. For purposes of comparison and statistical analysis, irrespective of the inhaled corticosteroid preparation used, mean micrograms of corticosteroids consumed per day were recorded for each patient for the year before

TABLE II. Analysis of subpopulations of patients receiving aspirin desensitization therapy for either 1 to 3 years, 3 to 6 years, or the combined group of 1 to 6 years

	Patients treated 1-3 years (n = 29)					Patients treated 3-6 years (n = 36)				
	Baseline		ASA Rx		p Values*	Baseline		ASA Rx		
	Median	Range	Median	Range		Median	Range	Median	Range	
Sinusitis	6	(1-12)	2	(0-12)	<0.0001	7	(0-12)	2	(0-12)	
Sinus surgery/yr	0.2	(0-0.75)	0	(0-2)	0.09	0.3	(0-1.2)	0	(0-1)	
Hospitalizations/yr	0.2	(0-0.54)	0	(0-1)	0.005	0.1	(0-1.7)	0	(0-1)	
ED visits/yr	0	(0-1.22)	0	(0-1.5)	0.2	0	(0-3)	0	(0-1.3)	
Olfaction score	0	(0-1)	3	(1-5)	<0.0001	0	(0-2)	2	(1-4)	

	Baseline		ASA Rx		p Values†	Baseline		ASA Rx		
	Mean	SEM	Mean	SEM		Mean	SEM	Mean	SEM	
Prednisone (mg/day)	7.9	±2.0	1.8	±0.7	0.01	12.0	±3.1	3.0	±1.0	
Nasal steroid (μg/day)	137	±25.6	90	±22.3	0.09	141	±16.6	121	±14.0	
Inhaled steroid (μg/day)	640	±146.2	885	±226.0	0.1	475	±88.4	452	±100.1	

ASA Rx, Aspirin therapy; ED, emergency department.

*Values were determined with Wilcoxon signed rank statistic. Two sided *p* values were reported.†Values were determined with paired *t* test.

entry and the year before study conclusion during aspirin desensitization therapy.

Statistical analyses

Statistical analyses were performed in the biostatistics section of the GCRC under the direction of James Koziol, PhD. The nonparametric Wilcoxon signed-rank test with two-tailed *p* value for normal approximation was used to analyze median differences before and after events that reflected disease activity. Changes in prednisone doses and nasal or oral inhaled corticosteroid doses were recorded as mean values; and the parametric statistic, paired *t* test, was used. Analyses were performed on the entire study population of 65 participants, as well as on two subpopulations (29 patients who were treated with daily aspirin for 1 to 3 years and 36 patients treated with aspirin for 3 to 6 years) (Table II).

RESULTS

The results were obtained for the entire population of 65 patients and segregated into subpopulations of patients who were treated with aspirin before and after desensitization for 1 to 3 years (29 patients) and 3 to 6 years (36 patients). Analyses of differences of mean values for these clinical parameters, before and during aspirin desensitization treatment, are shown in Table II.

As tabulated in Table II, for the entire group of 65 patients, there were highly significant (*p* < 0.0001) reductions in sinusitis and hospitalizations, improvements in sense of smell, and reduction of prednisone treatment; there were also significant (*p* < 0.05) reductions in sinus and polyp operations

and use of nasal corticosteroid and insignificant (*p* > 0.05) changes in emergency department visits for treatment of asthma and use of bronchial inhaled corticosteroids. In the subpopulation of 29 patients (Table II) who received aspirin desensitization therapy for less than 3 years, the results were the same as those noted for the total population of 65 patients, except for sinus operations and use of nasal corticosteroid, for which differences were insignificant. Six of these 29 patients entered aspirin desensitization with chronic sinusitis and did not experience clearing of their sinusitis after aspirin desensitization therapy. For these six patients sinus or polyp operations were required once or twice in the 2 years after aspirin desensitization therapy was started. The remaining 23 patients did not require any additional sinus operations after aspirin desensitization therapy during their 1- to 3-year follow-up. In the subpopulation of 36 patients who continued aspirin treatment for 3 to 6 years (Table II), with the exception of nasal corticosteroid use, all of the significant changes noted for the entire group of 65 patients, including reduction in the number of sinus and polyp operations, were also observed. Sinus surgery declined to the lowest level (an average of one operation every 10 years as compared with one every 3 years before) for each member of this long-term aspirin desensitization therapy subgroup.

Use of systemic corticosteroids was consistently

DISCUSSION

The syndrome of chronic and progressive eosinophilic rhinosinusitis with polyp formation and asthma, associated with aspirin- and NSAID-induced respiratory reactions, has been recognized for many years. After oral aspirin challenge and desensitization, aspirin can be administered daily to maintain the aspirin-desensitized state indefinitely.⁶ We initially studied therapy of the disease with daily administration of aspirin in low doses for short terms (3 months) in double-blind, placebo-controlled trials² and then in a prolonged open trial¹⁵ with higher doses of daily aspirin after desensitization. In the late 1980s, we attempted to conduct a long-term double-blind, placebo-controlled study of aspirin treatment in aspirin-sensitive patients. Unfortunately, after 2 years, only two patients were recruited, both of whom were assigned placebo and dropped out within weeks of starting the study because of return of nasal congestion 72 hours after starting "study drug" (placebo). In retrospect, there are three impediments to conducting a double-blind, placebo-controlled study: the "study drug" (aspirin) is over-the-counter and not controlled by the investigators; acute desensitization to aspirin induces rapid decongestion of the nasal passages in most patients, and discontinuing aspirin therapy is followed by return of nasal congestion in 72 hours, which makes "blinding" difficult; human subjects committees require full disclosure of therapy options including "open" treatment with aspirin. Because of these obstacles, we decided to conduct follow-up studies, using the most objective and representative measures of disease activity and change in corticosteroid medications, and compare these with the same parameters before aspirin desensitization. This study analyzes the largest sample of aspirin-sensitive patients with asthma (65) yet reported, treated with high-dose aspirin (mean dose, 1214 mg/day) and divided into two subsamples of either 1 to 3 years or 3 to 6 years.

In both subsets of aspirin-sensitive asthmatic subjects treated with daily aspirin, reductions in nasal and sinus inflammation were suggested by immediate and prolonged disappearance of nasal congestion, improvement in sense of smell, and reduction in sinus infections. Need for further sinus or polyp surgery continued in the 29 patients who were followed up for 1 to 3 years after aspirin desensitization, but in the 36 patients who were followed up for 3 to 6 years, the need was significantly reduced. This observation plus a detailed analysis of the six patients requiring surgery in the

Patients treated 1-6 years (n = 65)					
p Values*	Baseline		ASA Rx		p Values*
	Median	Range	Median	Range	
0.001	6	(0-12)	2	(0-12)	<0.0001
0.001	0.2	(0-1.2)	0	(0-2)	0.004
0.007	0.2	(0-1.7)	0	(0-1)	0.0001
0.4	0	(0-3)	0	(0-1.5)	0.1
<0.0001	0	(0-2)	2	(1-5)	<0.0001

p Values†	Baseline		ASA Rx		p Values†
	Mean	SEM	Mean	SEM	
0.0002	10.2	±2.0	2.5	±0.3	<0.0001
0.08	139	±14.5	106	±12.6	0.01
0.8	549	±81.1	645	±80	0.1

reduced during aspirin treatment (mean change for the entire group of 65 patients, 10.2 mg/day before and 2.5 mg/day after $p < 0.0001$). None of the patients required more prednisone, and 31 (including the 16 who had not used prednisone before entry) did not require any prednisone during the years of aspirin desensitization therapy. Another 16 required only one to three bursts of prednisone per year. Furthermore, 28 patients were taking prednisone on a daily basis before aspirin desensitization therapy and only 14 after therapy. Of these 14 patients, five converted to prednisone every other day, two to bursts of prednisone only, and seven to no prednisone treatment. Similarly, of the six patients who were taking prednisone every other day before aspirin therapy, two converted to bursts of prednisone and four to no prednisone therapy. Finally, of the 15 patients who were only taking bursts of prednisone before aspirin therapy, four converted to no prednisone therapy after aspirin therapy. This reduction occurred in both the first 3 years after aspirin desensitization and held steady in the later 3- to 6-year group. Topical nasal corticosteroid use was also reduced in patients not requiring systemic corticosteroid. Eight patients discontinued nasal corticosteroid therapy during aspirin treatment. For the subgroups, there were no significant changes in use of nasal steroids, but for the entire 65 patients a barely significant reduction was noted. Use of inhaled corticosteroids increased in several patients, but for the group there were insignificant changes either in the two subpopulations or the entire group of 65 patients.

1 to 2 years after aspirin desensitization therapy suggest that debulking sinus polypoid tissues in the nose and sinuses of appropriately selected patients before aspirin desensitization is a better strategy than waiting for the slower reduction in nasal tissue inflammation after aspirin desensitization. After surgery, aspirin desensitization can then be initiated and reoperative intervention reduced from an average of once every 3 years (before aspirin desensitization) to once every 10 years during long-term therapy with aspirin.

These events occurred in the setting of reduced need for oral corticosteroid treatment in both the short-term and long-term groups. Thus not only did sinus infections decline significantly in the first 3 years after aspirin desensitization, but continued or increased systemic corticosteroids did not account for this effect. In fact, the opposite occurred with a consistent lowering of prednisone from a mean of 10.2 mg/day to 2.5 mg/day. These data suggest that corticosteroids can be promptly reduced in the first 3 years of aspirin therapy, and disease escape, with requirement for more corticosteroids, does not occur over the long term.

In the aspirin-sensitive patient, during avoidance of aspirin, ongoing synthesis of leukotrienes (LTs) appears to be continuous and probably produces eosinophilic nasal polyposis.¹⁸ Additional pulses of LTs and release of histamine and other mediators at the time of aspirin reactions have been demonstrated in a number of studies.¹⁹⁻²⁶ During aspirin desensitization and treatment with aspirin, short-term and long-term studies reveal the following: reduction in LTB₄ synthesis in peripheral monocytes,²⁰ decreased levels of LTC₄ and histamine in nasal lavage fluid,¹⁹ reduction in plasma histamine and tryptase,²⁶ reduction in urinary LTE₄ levels during short-term and then long-term high-dose aspirin desensitization therapy,^{22, 25} and marked reduction in airway responsiveness to LTE₄ but not histamine after aspirin desensitization.²⁷ Thus current hypotheses are that aspirin desensitization treatment reduces generation of arachidonic products and histamine-tryptase release and downregulates airway hyperresponsiveness to LTE₄, all of which would be expected to reduce inflammation in respiratory tissues.

The time of this report coincides with a period of rapid change in the cost-effective treatment of patients in general and hospital utilization in particular. After aspirin desensitization therapy, a decline in the rates of admissions to hospitals for treatment of exacerbations of asthma occurred. We interpret these results to indicate fewer exac-

erbations of acute sinusitis, followed by asthma, because this is the usual pathophysiologic sequence leading to mandatory hospitalization for treatment of uncontrolled asthma in aspirin-sensitive patients with asthma. Such an interpretation is consistent with the simultaneous decline in number of sinus infections per year in patients undergoing aspirin desensitization therapy. The insignificant changes in emergency department visits for treatment of asthma suggests that some asthma activity continues in this population. There clearly was no increase in use of emergency departments, and therefore reductions of systemic corticosteroid and hospital admissions were not associated with shifting more patients into emergency department visits. The economic savings of aspirin desensitization therapy derive from reduction in hospitalizations and sinus surgery. Aspirin and prednisone are relatively inexpensive medicines, whereas topical corticosteroids are more expensive. Nasal corticosteroids were slightly reduced over the long term, although inhaled corticosteroids were not significantly changed. Thus global cost savings in reduced need for hospitalization, surgery, and nasal topical corticosteroids appear to be the result of aspirin desensitization therapy.

Therefore on the basis of our prior experience,^{2, 8, 15, 16} the biochemical supporting data, demonstrating a decline in mediator synthesis or release after aspirin desensitization,^{19, 20, 22, 24-26} and the results of this study of 65 patients desensitized and treated with daily aspirin, we conclude that aspirin desensitization therapy can be used as one approach to the antiinflammatory drug strategy for the treatment of aspirin respiratory disease. There are, however, potential complications from aspirin challenges, desensitization, and therapy.

There is danger of inducing severe bronchial airway obstruction during aspirin challenges. This can be minimized by beginning with small doses of aspirin, incrementally increasing doses of aspirin with a minimum of 3 hours between doses, and working up slowly to the threshold dose, which just produces the respiratory reaction. We insist that the asthma be in full control at the time of aspirin challenges, sometimes increasing systemic corticosteroids and other treatments during the days before challenges. We perform our aspirin challenges and desensitization procedure in the GCRC of the Green Hospital. However, for those conducting oral aspirin challenges in local hospitals, the critical day for risk of severe bronchial airway obstruction is the day of first reaction (usually to 60 mg of aspirin). Therefore discharging the patient

24 hours later and completing aspirin desensitization on an outpatient basis is a reasonable cost-effective compromise, assuming that outpatient department facilities are well equipped and staffed to treat any additional but less severe bronchospasm, should it occur.

Once a patient has been desensitized, continued treatment with aspirin may be interrupted by gastric side effects. Such effects occurred in 12 of the 65 patients in our 1990 report and nine of the starting group of 75 patients in this report (Table I). Other reasons for discontinuing aspirin were less common (one of 75 patients in this report discontinued aspirin because of planned pregnancy) than in our previous report (18 of 65).¹⁵ Thus the inappropriate discontinuation of aspirin, as reported in the 1990 study, accounted for the high dropout rate (30 of 65, 46%) when compared with this study (10 of 75, 13%).

Patients were cautioned to carefully avoid aspirin and NSAIDs if they discontinued aspirin desensitization therapy because discontinuation of aspirin results in reinstitution of aspirin sensitivity in 48 to 96 hours.⁷ For patients undergoing elective surgery, aspirin doses can be reduced to 325 mg daily for 7 days, and aspirin withheld only on the day of surgery. It is important to distinguish between the minimum dose of aspirin that can continue the aspirin-desensitized state (as little as 81 mg/day) and the doses of aspirin used to reduce inflammation in the respiratory tract and reverse nasal congestion (average, 650 mg twice daily).

We recommend that aspirin desensitization, followed by daily aspirin treatment, be considered as a therapeutic option for the following aspirin-sensitive patients with asthma: (1) those with uncontrolled respiratory symptoms, despite optimal medical management with topical corticosteroids, intermittent antibiotics, and/or bursts of corticosteroids; (2) those with respiratory inflammatory disease, which can only be controlled with unacceptably high doses of systemic corticosteroids, with their attendant side effects; (3) those requiring repeated polypectomies and/or sinus surgery, even if they are not taking systemic corticosteroids; and (4) those who need aspirin or NSAIDs for the treatment of other diseases, such as arthritis or prevention of thromboembolism.

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