examined the adequacy of different drugs for primal therapy on each type of pollinosis.

Methods: Patients with pollinosis attending 11 otorhinolaryngology clinics in Tokyo during part of pollen season (February 18–26) were enrolled and assigned to either an anti-leukotriene agent (pranlukast) or an antihistamine based on their symptoms in the previous year. During 3 months of treatment, symptoms and quality of life (QOL) were investigated by a mail questionnaire at 7 time points (at the start of treatment, and between March 1 and May 15).

Results: Of 150 patients with pollinosis who were registered, analysis was conducted on 144 patients (62 receiving anti-leukotriene therapy and 82 receiving antihistamine therapy), excluding those with incomplete questionnaires. In both groups, scores for symptoms of pollinosis and QOL were low, suggesting that both drugs were effective considering the high pollen levels season (5–9 times higher than the previous year). After defining types of pollinosis by the severity of symptoms (sneezing, rhinorhea, or nasal blockage), stratified analysis was conducted. This showed that antihistamine therapy was effective for the sneezing/rhinorhea type and anti-leukotriene therapy was effective for the nasal blockage type, with no difference between the 2 drugs the combined type. For the nasal blockage type, symptoms and QOL improved faster with anti-leukotriene than antihistamine therapy from the peak to the end of the pollen season. No adverse effects were observed.

Conclusions: When either an anti-leukotriene (pranlukast) or an antihistamine was used for primal therapy of pollinosis, both drugs improved pollinosis symptoms and QOL. Stratified analysis showed that the antihistamine was more effective for the sneezing/rhinorhea type and the anti-leukotriene was more effective for the nasal blockage type, with no difference in effectiveness for the combined type. Therefore, appropriate drugs for the type of pollinosis should be selected for primal therapy.

181
Olfactory Dysfunction in Patients with Chronic Rhinosinusitis
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Background: There are several factors that could produce olfactory dysfunction. The chronic inflammation of the upper air tract, especially allergic rhinitis is mentioned as a trigger factor. The aim of this study is assess the prevalence and identify clinical features associated with olfactory dysfunction in patients with chronic rhinosinusitis.

Methods: A prospective, analytical and observational study in adult patients (> 18 years) with chronic rhinosinusitis during the period May-October of 2010. We used the CCCRC (Connecticut Chemosensory Clinical Research Center smell test).

Results: A total of 33 patients were investigated. In the group of patients between 18 and 39 years, 73% of patients suffer from hyposmia and 18% anosmia; for the group of 40 to 64 years, 63% with hyposmia and 37% anosmia; patients older than 65 years, 67% hyposmia and 33% with anosmia. In the smokers group the 11% of patient presented hyposmia and 13% anosmia (P < 0.05); 5% in both cases had a history of nasal endoscopic surgery. In patients with chronic rhinosinusitis with nasal polyps have 18% with hyposmia and 19% with anosmia (P < 0.05). A 20% with allergic rhinitis had hyposmia while anosmia in 22% (P < 0.05). Septal deviation patients had 20% of hyposmia (P < 0.001) and 12% anosmia. Patients with turbinate hypertrophy had 22% hyposmia (P < 0.001) and 13% anosmia while in the group of patients with Asthma, the 4% had hyposmia and 16% anosmia (P < 0.001).

Conclusions: Nasal polyposis, septal deviation, turbinate hypertrophy, smoke, allergic rhinitis and asthma are negative predictors factors of olfactory dysfunction in patients with CRS. A previous endoscopic surgery, age and sex would not intervene in the olfactory loss.

182
Perceptions of Caregivers of Patients with Cow Milk Allergy Regarding the Treatment
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Background: To understand the perceptions of caregivers of patients with cow milk allergy (CMA) regarding the disease and its treatment.

Methods: Qualitative study in which caregivers of children and adolescents with confirmed CMA followed, at least, for 1 year, were interviewed. They were recruited from outpatient clinic of Allergy and Immunology Division from a tertiary pediatric hospital in São Paulo, Brazil. The interviews were conducted under conditions of privacy and 2 opened questions were proposed: “Tell me about your experience with cow’s milk allergy treatment” and “What do you expect from your child’s disease treatment?” Data were audio-recorded, transcribed, analyzed using the content analysis method and categories and subcategories were generated based on their speeches.

Results: Nine interviews were done and 3 categories with subcategories emerged: A. Treatment and education of the patient and their caregivers (life experiences, bases of treatment, coping with the disease). B. Resolution of the disease (hope, gradual improvement). C. Quality of life (social inclusion, family daily activities, costs of dietary treatment). Caregivers experienced difficulties during the initial treatment but pointed out that the guidance given during follow-up made the adjustments easier. They also compared CMA with other chronic diseases and highlighted the importance of their children follow-up in this institution for adequate control. They commented on the difficulties about lack of cooperation from other family members regarding the restrictive diet, their experience coping with allergic reactions, doubts about the treatment and gaps on knowledge about the disease by other physicians and people. The majority of relatives was satisfied with the gradual improvement of patients, although there are no drugs or vaccines for treatment, and observed a reduction on the severity of symptoms and tolerance of milk traces. In addition, they commented on the efforts to give a normal life for their children, the changes in their daily lives and the difficulty to buy special products.

Conclusions: This qualitative study allowed us to understand how families cope with the disease, their histories and hopes about the treatment. They feel a great burden of the disease and need support and orientation from health professionals.

183
Incidence of Systemic Reactions (SRS) to Prick (P) and Intradermal (ID) Tests, Response to Immediate (“STAT”) Epinephrine IM (EPI IM) Dose versus BMI, Number of Delayed SRS, and WAO Systemic Reaction Grade
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Background: To determine the incidence of SRs to P and ID tests, the response to stat epi IM, number of delayed SRs, the dose of epi IM versus BMI and the World Allergy Organization (WAO) Grade (1-5) of the SRs.

Methods: SRs were compiled from 07/2010 to 06/2011 to P and ID tests for any combination of approximately 20 allergens (pollens, animal emanations, molds and Hymenoptera) in 1,332 subjects. Nurses administered stat epi IM (1:1000 v/v), 0.2 mg IM, into the arm or thigh for any signs or symptoms (SS) of a SR, including, but not limited to, itchy eyes, nose, pharynx, or palms; rhinorrhea, nasal congestion, sneezing; and generalized erythema, skin pruritus, or urticaria. SS (WAO Grade), total epi IM dose, and delayed SRs were recorded. Repeat doses of epi IM were given if SS persisted or worsened.

Results: 31 (2%) had SRs: 24 (77%) female, 7 (23%) male; 5 (16%) pediatric, 26 (84%) adult. Of the 31 SRs, 26 (84%) had Grade 1, 5 (16%) Grade 2 and Grades 3 to 5, 13 (42%) experienced SS during P and 18 (58%) during ID or at the completion of P and ID. All received stat epi IM with any SS. 2 BMIs were not available. 28 SRs, with a mean BMI of 28.5 (overweight range 25.0–29.9) received one epi IM, 0.2 mg, and one BMI 20.4 (normal range 18.5–24.9) received 2 epi IM (total 0.3 mg). There were no underweight (less than 18.5) or obese (30.0 or greater) subjects.

Conclusions: 31 (2%) had SRs to P and/or ID tests; 30 received one epi IM dose (0.2 mg) and one, 2 doses (0.3 mg total). There were no delayed SRs or relationship of epi IM dose to BMI and all but one were WAO Grade 1 reactions. Stat use of EPI IM may prevent more serious SRs and delayed reactions.

184 The “Allergy Blog” and Lay Person Questions: An Interactive Educational Experience
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Background: Despite the increase of allergic diseases over the last decades, the population ignores the basic concepts, interfering in their prevention and treatment. The “Allergy Blog” (Blog da Alergia) has been using digital media resources to offer new forms of dialogue and patients’ educational enlightenment since 1996. This research objective to report the interactive educational experience, through the internet on “http://www.blogdalergia.com” and to find out, from the audience’s questions, which are the main areas of interest about immune-allergic diseases.

Methods: Research on 1375 e-mails randomly selected, sent to the Blog home page, to know what were the main issues raised by the lay public. The e-mails were analyzed, considering the gender and age of the users and the topic searched.

Results: Since 1996, Allergy Blog answered 4,256 e-mails and 2,200 comments. Most of patients were female: 78.2%, compared with 19.9% male and 1.9% with no information. Many users (67.65%) did not report their age, as there wasn’t a mandatory item for this question. But, 25.38% of the users were parents or guardians of children with allergic disease. The frequency of the most popular topics searched were: Urticaria (14.55%), Doubts about drugs (12.51%), Allergic Rhinitis (10.98%), Pruritus (8.15%), Asthma (8.87%), Contact dermatitis (5.60%), Atopic Dermatitis (4.58%), Drug Allergy (2.47%), Cough (3.86%), and Others (6.40%). Dermatologic manifestations of allergy bring more questions than the respiratory ones (32.9% versus 23.7%), and drug concerns responded for 14.9% of the doubts. Asthma, for which there are a lot of educative campaigns, represented only 8.9% of the questions. To clarify these questions, Allergy Blog published educational texts and interacted with the visitors through: a) Comments on Blog posted questions, 2) Answers to doubts sent via e-mail, 3) Chat intended for short answers.

Conclusions: The discovery of the lay’s greatest gaps and areas of interest can be a guideline to improve new educative actions in Allergy and Immunology. The use of digital media and social networks may be a prime tool for the education of allergic individuals, community dialogue and dissemination of correct information about the various aspects of immune-allergic diseases.

185 Anaphylaxis after Anesthetic Reversal
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Background: Sugammadex is a new drug used for the reversal of neuromuscular blockade by rocuronium or vecuronium, a muscle relaxant used as fast acting.

Methods: We performed a review of a case of a patient scheduled for osteosynthesis of the ankle with a history of bronchial asthma and sensitization to Dermatophagoides pteronyssinus. After the surgery the patient suffered anaphylaxis, a minute after the use of sugammadex.

Results: We evaluated the drugs used during anesthesia Prick and intradermal, and we obtained positive results with Sugammadex at 1 month, 3 and 6 months. We performed the basophil activation test giving a positive result. Tests show IgE-mediated sensitization with positive skin tests and basophil activation test.

Conclusions: It is believed that prior sensitization may have occurred due to ingestion of cyclodextrins which is present in many foods. The atopic status of this patient may have had some awareness of cyclodextrins. This case has been published as the first documented case of anaphylaxis by sugammadex with normal doses. Our case raises clear that the underlying mechanism of this reaction was an IgE-mediated sensitization.

186 Establishment of Reference Values for Differential Cell Counts in Nasal Lavage of Healthy Young Adults
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Background: Upper airway inflammation could be reflected by nasal lavage cytology test, which is characterized by advantages of non-invasive, simple, objective and costless. However, reference values nasal lavage cytology was not established. To establish reference values and positive standard for nasal lavage cytology through screening normal healthy subjects and patients with allergic rhinitis according to strict inclusion criteria.

Methods: To establish reference values and positive standard for nasal lavage cytology through screening normal healthy subjects and patients with allergic rhinitis according to strict inclusion criteria.

Results: There was no statistical significance in gender constitutional proportion, age, height and weight among each group. 95% CI of neutrophils, eosinophils was (0·12·61)/≥200 and (0·1·70)/200, respectively. The median (interquartile range) of eosinophils were 0(0·65)/200 in AR group, which showed no statistical difference (P > 0·05) with that of normal group [0(0)/200]. A significant difference was found in the median (interquartile range) of eosinophils [6·90(22·40)/200] in AR group as compared with that of normal control group [0(0)/200, P < 0·001].

Conclusions: Establishment of reference values of nasal lavage cytology test is helpful to discriminate normal individuals and patients with allergic...