

## 210 Clinical Characteristics of Aspirin Exacerbated Respiratory Disease in a Tertiary Care Patient Cohort



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**RATIONALE:** Aspirin exacerbated respiratory disease (AERD) comprises the triad of chronic rhinosinusitis with nasal polyps (CRSwNP), asthma, and intolerance to cyclooxygenase-1 enzyme inhibitors such as aspirin. The prevalence of AERD remains unclear and few studies have compared the clinical characteristics of patients with AERD to those with CRSwNP or asthmatics without CRS.

**METHODS:** ICD-9 codes were used to search electronic medical records (EMR) from a tertiary care center to identify 3 distinct patient groups: 1) CRSwNP alone; 2) CRSwNP+Asthma; and 3) AERD. For comparison, 300 patients diagnosed with asthma without CRS were randomly selected from the EMR. We evaluated clinical characteristics including lung function, sinus surgeries, and oral corticosteroid use.

**RESULTS:** We identified 459 patients with CRSwNP alone, 412 with CRSwNP+Asthma, and 173 with AERD. The prevalence of AERD among all CRSwNP patients was 16%. AERD patients underwent two-fold more sinus surgeries ( $p<0.001$ ) and were significantly younger at the time of their first surgery ( $40 \pm 13$  years) than CRSwNP patients ( $43 \pm 14$  years,  $p<0.05$ ). Atopy was significantly more prevalent in patients with AERD (83%) or asthma (85%) than in CRSwNP (66%,  $p<0.05$ ). FEV1% was significantly lower in AERD patients compared to asthmatics ( $80 \pm 18$  vs  $86 \pm 17$ ,  $p<0.01$ ). Finally, more patients with AERD (13%) had corticosteroid-dependent disease than CRSwNP+Asthma (4%,  $p<0.01$ ) or asthma (1%,  $p<0.001$ ).

**CONCLUSIONS:** This is one of the largest studies comparing surgical and non-surgical AERD patients with CRSwNP patients and asthmatics. AERD is common among CRSwNP and is associated with more severe sinus disease and reduced lung function compared to CRSwNP patients and asthmatics respectively.

## 211 Clinical Characteristics of Patients with Chronic Rhinosinusitis without Nasal Polyps in a Tertiary Care Setting



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**RATIONALE:** Patients with chronic rhinosinusitis without nasal polyps (CRSsNP) have not been well characterized phenotypically. We performed a retrospective chart review at Northwestern University of subjects with CRSsNP using patients with CRS with nasal polyps (wNP) as a comparator.

**METHODS:** Patients with a history of CRS with positive sinus CT (>18 y.o.) evaluated in the Allergy/Immunology or Otolaryngology clinics

between 2002-2012 were randomly identified via ICD-9 codes. Characteristics analyzed included demographics, atopy, radiologic sinus severity, and comorbid diseases.

**RESULTS:** 319/507(63%) were female in the CRSsNP group compared to 393/847(45%) in the CRSwNP group. Severity of sinus disease was similar between men and women with CRSsNP. Prevalence of atopy was 52% in CRSsNP versus 76% in CRSwNP ( $p<0.0001$ ). In CRSsNP, atopic patients had more severe disease radiographically compared to non-atopic patients ( $p<0.005$ ). Prevalence of asthma was 36% in CRSsNP versus 56% in CRSwNP ( $p<0.0001$ ). Comorbid asthma was not associated with sinus disease severity in CRSsNP but was significantly associated with disease severity in CRSwNP ( $p<0.0001$ ). Comorbid conditions observed in CRSsNP included humoral immunodeficiency (5.7%) and autoimmune diseases (13.3%).

**CONCLUSIONS:** This is the largest clinical characterization of patients with CRSsNP to date. CRSsNP patients were predominantly female whereas CRSwNP patients were predominantly male. The prevalence of asthma was higher in our cohort of CRSsNP patients than previously described. Atopy was associated with more severe disease in CRSsNP while asthma and gender were not associated with severity. The prevalence of comorbid autoimmune diseases in CRSsNP was higher than expected in the general population (~7.6-9.4%).

## 212 Management of Adenoid Hypertrophy in Allergic Children, How Effective Is Surgery?



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**RATIONALE:** The aim of our study was to explore the role of allergy in the recurrence of adenoid hypertrophy after the surgical removal.

**METHODS:** 285 children aged between 6 and 15 who underwent adenoidectomy for adenoid hypertrophy from two different centers were enrolled. All the children were assessed before and after surgery by nasal symptom scores and nasal fiberoptic endoscopy. Skin prick tests were performed with common aeroallergens including house dust mites (HDM), cockroach, Alternaria, animal dander, tree, grass, ragweed and mugwort pollens.

In order to eliminate the inadequate surgery factor, a month after surgery patients were reassessed and children with visible residual adenoid tissues on nasal endoscopy were excluded. Children with allergic rhinitis received guideline directed treatment. Twelve months postoperatively, all the children were re-examined and the adenoid regrowth rates of allergic and non allergic children were compared

**RESULTS:** Thirteen children were excluded due to the presence of residual adenoid tissue and 57 due to the lack of cooperation with endoscopic examination. Of the remaining 215 children, 65 had at least one positive skin prick test. Visible recurrence was observed in 16 children in the allergic group (24.6%) and 17 in the non-allergic group (11.33%). The prevalence of recurrence was higher in the allergic group and this finding was found to be statistically significant ( $p<0.005$ ). HDM and Alternaria were the predominant allergens in the allergic group with recurrence.

**CONCLUSIONS:** Our findings suggest that allergic rhinitis is associated with a high probability of recurrence after adenoidectomy, possibly caused by immunological events in nasopharynx associated with allergic sensitization.