787 Daily Low-Dose Aspirin Use Leads to a Delay in Diagnosis of Aspirin Exacerbated Respiratory Disease

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RATIONALE: Clinical observation suggests use of daily low-dose (81mg) aspirin can obscure the diagnosis of Aspirin Exacerbated Respiratory Disease (AERD). The prevalence and characteristics of patients who tolerate low-dose aspirin without history of a clinical reaction at the time of AERD diagnosis are not known.

METHODS: A retrospective chart review of patients with AERD followed at Brigham and Women's Hospital was performed. Patients taking 81mg of aspirin daily stopped their aspirin at least 10 days before aspirin challenge. History and clinical data of patients on 81mg aspirin daily prior to diagnosis (81mg aspirin group) and of those not on low-dose aspirin (no aspirin group) were compared using non-paired, two-tail T-test and Chi-square analyses.

RESULTS: 164 patients were reviewed, with comprehensive data available for 91. Seven (4.3%) took 81mg aspirin daily prior to aspirin challenge; these patients all had refractory nasal polyposis. Average age at diagnostic aspirin challenge was 59.6 years in the 81mg aspirin group, compared with 48.3 years (n=66) in the no aspirin group (p = 0.013). There was no difference in number of lifetime polypectomies. Asthma was less common among the 81mg aspirin group (5/7 vs. 83/84, p = 0.015). Four of the 81mg aspirin patients initiated high-dose aspirin therapy; all reported subjective improvement and none required repeat polypectomy (average follow-up 26 months, range 5-37 months). On high-dose aspirin their FEV1 (n=3) increased by at least 10%.

CONCLUSIONS: Tolerance of low-dose aspirin results in delayed AERD diagnosis, and is associated with lower asthma prevalence and clinical benefit from high-dose aspirin.

788 Comparative Serum Hyaluronan Levels in Patients with Aspirin-Exacerbated Respiratory Disease, Asthma, and Healthy Controls

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RATIONALE: Asthma is a chronic inflammatory disease with known clinical and pathological heterogeneity. Aspirin-Exacerbated Respiratory Disease (AERD) represents a subset of asthmatics, often with more difficult to control asthma and concomitant sinus disease. Hyaluronan (HA) is a glycosaminoglycan component of the extracellular matrix that is thought to play a role in inflammation, airway remodeling, and is increased in the asthmatic airways. We hypothesized that the subgroup of patients with AERD would have the highest levels of serum HA compared to non-AERD asthmatics and controls.

METHODS: Adult subjects were recruited in a prospective cohort study in Poland. Serum samples were collected and an HA Elisa-Like analysis was performed. Single tail ANOVA was used for analysis.

RESULTS: A total of 60 samples were included in the study; 23 AERD, 25 with asthma, and 12 controls. The mean age of subjects was 50.5 and 68% were female. Mean HA levels among groups were as follows: 333.30 ng/dL in subjects with AERD, 306.75 ng/dL in subjects with asthma, and 282.35 ng/dL in controls. HA levels were slightly higher in AERD subjects when compared to patients with asthma or controls. However, there was no statistically significant difference when mean HA levels were compared between groups ($p = 0.89$).

CONCLUSIONS: Though there was no statistically significant difference in HA levels with this small pilot study the trend of higher serum HA levels in patients with AERD deserves further study. Additional samples and correlation of HA with other parameters will be performed in an ongoing analysis.

789 Risk Factors for Depression in Rural Adolescents with Asthma

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RATIONALE: Studies have shown higher rates of depression in asthmatics; however, little is known about the relationship of depression to asthma symptoms and diagnosis, especially in adolescents.

METHODS: Asthma symptoms and depression were assessed as part of Puff City, a randomized controlled trial of a web-based asthma intervention in four rural Georgia high schools. The Lung Health Survey (LHS) was used to classify students as having current diagnosed or undiagnosed asthma. Depression screening was performed in students using the Diagnosis Interview Schedule for Children (DISC) and in parents using Patient Health Questionnaire-9 (PHQ-9). Logistic regression was used to examine the association of various correlates with adolescent depression, including age, gender, race, asthma type (diagnosed or undiagnosed), and parental depression.

RESULTS: Among 2523 adolescents, the prevalence of asthma (n=456, 18.1% diagnosed; n=185, 7.3% undiagnosed) was similar to urban settings. Those with undiagnosed asthma were more likely female (n=106, 73.6%, p<0.001). The overall rate of depression (26.2%) was significantly higher than both national averages and studies specific to adolescents with asthma. Depressed students were more likely to be female (OR=2.50, 95% CI 1.43-4.35) and have undiagnosed asthma (OR=2.56, 95% CI 1.56-4.34). Student age, race, nor parental depression correlated with depression.

CONCLUSIONS: In this rural population, those with undiagnosed asthma and females were at higher risk for depression. Undiagnosed asthma was a more frequent problem than previously reported and females appear to be at highest risk. These findings underscore the need to recognize depression as a barrier to proper diagnosis and asthma self-management.

TUESDAY