



ASCI 2012 Poster Abstracts

P01

INVOLVEMENT OF THE EYE IN IGG4 RELATED DISEASE: A CASE SERIES

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Background: IgG4-related disease (IgG4RD) is a recently described clinicopathological entity with multiple manifestations including ocular involvement. Here we present six cases with ocular manifestations and their treatment outcomes.

Methods: Their medical records were studied for pattern of clinical symptoms, progress over time, diagnostic features and treatment plans. Available histological sections and radiology images were reviewed. Serial IgG4 levels were compared to response to treatment. A literature review was also performed.

Results: Three patients were diagnosed after 6 to 11 years of symptoms, while the other three were diagnosed within 1 year of symptom onset. Two had retro-orbital masses only, one a retro-orbital mass with scleral involvement and skin disease, one scleritis only, one a maxillary mass extending peri-orbitally and one had lacrimal gland disease initially and then developed pancreatitis without further eye disease. Peak IgG4 levels ranged from normal ($n = 1$) to 21.6 g/L (0.05–1.25 g/L) and decreased with treatment. A rapid response to glucocorticoids was seen in all patients but most (4/6) relapsed on reduction of immunosuppression. Maintenance immunosuppression was started with azathioprine in all patients; however, one was intolerant and changed to oral cyclophosphamide and another relapsed in her previously uninvolved eye and started pulsed intravenous cyclophosphamide with a good response.

Conclusion: Recent studies have reported on the varied presentations of IgG4RD, including some patients having normal IgG4 levels despite positive biopsy findings and this is also demonstrated in our series. We also demonstrate that, as with other manifestations, eye involvement responds rapidly to immunosuppression, but with a requirement for maintenance therapy. Four did well with azathioprine. Cyclophosphamide was effective in the other two. To our knowledge this is the first case series reviewing the ocular involvement of IgG4RD and its treatment and highlights scleritis alone as another manifestation of this eclectic disease.

ASCI 2012 Annual Scientific Meeting posters (5–7 September)

P02

IDENTIFICATION AND CHARACTERIZATION OF A NOVEL IL-4 RECEPTOR ANTAGONIST FOR ALLERGY TREATMENT

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Introduction: In recent times, allergy has become a financial, physical and psychological burden to the society as a whole. Allergic reactions can result in life-threatening situations causing morbidity and high economic cost. Therefore, more effective reagents are needed for allergy treatment. In allergic cascades, cytokines IL-4 and IL-13 bind to IL-4 receptor (IL-4R), consequently producing allergen-specific IgE antibodies by B cells. Therefore characterization of novel allergy therapeutics that reduce IgE production forms the overall aim of this study.

Methods: Phage display technology was used to screen a random peptide library with a biologically active purified human IL-4R to identify peptide candidates that interacted with the receptor. Once identified, the peptides were commercially synthesized and used for *in vitro* immunoassays.

Results: We have successfully used phage display to identify M13 phage clones that demonstrated specific binding to IL-4R. All of the 10 individual phage clones characterized had identical peptide sequence motifs, and only one was synthesized for use in ELISA, demonstrating significant binding to IL-4R. We have successfully shown that the peptide antagonist inhibits both

cytokines IL-4 and IL-13 in interacting with the IL-4R. Furthermore, the peptide was tested in a transfected HEK-Blue™ IL-4/IL-13 reporter cell line model, which produces alkaline phosphatase (AP) as a substitute to IgE when stimulated with cytokines IL-4 and IL-13. QUANTI-Blue, a substrate, breaks down in the presence of AP producing blue coloration. Using this colorimetric analysis, >50% inhibition was achieved with the peptide, resulting into less AP and hence, less colour.

Conclusion: We have successfully identified and characterised a synthetic peptide antagonist against IL-4R, which effectively inhibits IL-4 and IL-13 interaction with the IL-4R *in vitro*. Since IL-4 and IL-13 interaction with IL-4R is a common pathway for many allergies, a prophylactic treatment can be devised by blocking this interaction for future treatment of allergies.

ASCI 2012 Annual Scientific Meeting and Immunopathology Update posters (5–8 September)

P03

THE PREVALENCE OF BRONCHIAL ASTHMA COEXISTING WITH ALLERGIC RHINITIS IN SAUDI ARABIA

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Introduction: Allergic Diseases are among the most common health disorders of childhood. The overall prevalence of allergic disorders in children has been reported to be as high as 41% in Western Countries, with bronchial asthma having been shown to be a leading cause of morbidity and mortality among these allergic diseases. The co-existing morbidity of allergic rhinitis and asthma among children 6–16 years has been estimated between 40–90%.

Methods: We conducted a survey using a standardized Questionnaire comprised of 45 Questions to determine the prevalence of asthma and allergic rhinitis' coexistence among school children in Saudi Arabia from January to December 2009. Five cities were selected (Al Jouf, Hail, Riyadh, Jeddah and Dammam). A total of 5000 school children between 6–16 years of age were included in the study. The subjects were selected randomly in a cross-sectional manner. Questionnaires were distributed for parents to complete under supervision of medical personnel.

Results: The valid questionnaires collected were 4500, 55% males and 45% females. Age distribution was 80% 6–12 years and 20% >12–16 years. The overall prevalence of asthma coexisting with allergic rhinitis was 83% with some variable degree in the studied locations. The prevalence of asthma, allergic rhinitis and eczema was 17, 26 and 15% respectively.

Conclusion: More than 80% of asthmatic patients reported allergic rhinitis. Asthma and allergic rhinitis coexist in a substantial percentage of patients. It has been proposed that allergic rhinitis and allergic asthma are manifestations of the same disease and that they represent a continuum of pathologic and physiologic characteristics. As asthma and coexisting allergic rhinitis share common pattern of individual risk factors, it is of utmost importance for paediatricians and health care planner to take it into consideration in the management and prevention of the two diseases.

ASCI 2012 Annual Scientific Meeting posters (5–7 September)

P04

INCIDENCE, CLINICAL MANIFESTATIONS, AND OUTCOME OF ADVERSE REACTIONS TO INTRAVENOUS RADIO-CONTRAST MEDIA FOLLOWING COMPUTED TOMOGRAPHY (CT)

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Background: Adverse reactions to intravenous radio-contrast media have been a growing medical concern because they are relatively common and potentially life threatening. The objective of our study was to evaluate the incidence, clinical manifestations, and outcome of adverse reactions to IV RCM in general population.

Methods: Medical and reaction reports of all examinee that were scheduled to undergo CT with IV RCM were reviewed and monitored by RCM adverse reaction surveillance team consisting of nurses and allergy specialists. Data collected included age, sex, individual past history of previous RCM