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LIFE EVENTS INFLUENCE THE DEVELOPMENT OF RHEUMATIC DISEASES: A CASE CONTROL STUDY

Rheumatology

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ABSTRACT

Stress and stressful life events aggravate rheumatic disease development. With pre-existing susceptibility to genetic background, this case-control study explores the relationship amongst life events, hassling personality and coping strategy. This is case control study in which 20 male who fulfill New york criteria1. Twenty male Rheumatic disease patients, mean age was 24.5 (21-30) yrs, with a duration of disease 3.25 (0.5-5)cyrs with ESR 43 (28-67) and CRP 9.25 93-21) ng per dl. All the patients were on NSAID and disease modifying drugs at the point of screening. Five had received Infleximab and methotrexate and all remaining were on methotrexate and Salazopyrine. AS, a chronic inflammatory rheumatic disorder predominantly affecting the spine, has a substantial impact on the physical and emotional functioning and the quality of life. Literature evidence indicates the causal relationship between stress and onset of autoimmune diseases. Studies have concluded that infection and work stressors along with genetic predisposition may serve as potential triggers of rheumatic disease onset. The current study results also states the influence of stressful and traumatic life events in the development of rheumatic disease, especially in susceptible individuals. The life events and their impact by the nature of the personality is significantly different in patients with rheumatic diseases compared to the control group. Hence we conclude life stresses seems to be playing a critical role in the development the disease.

KEYWORDS

Life events, Rheumatic disease

INTRODUCTION

There are anecdotal as well published observations to suggest that psychological stress plays a definite role in triggering auto immunity, thus resulting in various auto immune diseases. In this study we propose to test the hypothesis that psychological stresses (major life events and daily hassles) are one of the triggering factors for rheumatic diseases in addition to other associated trigger such as infections, genetic susceptibility. Genetically susceptible individuals were compared to controls, who did not get the disease despite being exposed to same amount of stress, and difference in their coping strategies.[1,2]

Stress and stressful life events aggravate rheumatic disease development. Ankylosing Spondylitis(AS), used to study the hypothesis, has a close and well described association with genetic marker HLA-B27. With pre-existing susceptibility to genetic background, this case-control study explores the relationship amongst life events, hassling personality and coping strategy.

Material Method

This is case control study in which 20 male who had their first reportable symptoms related to ankylosing spondylitis recently within 5 yrs and who are HLAB 27 positive and who fulfill New york criteria1, cases and controls are persons from the same family who did not develop the disease. Both the cases and controls were excluded if they had any features of other rheumatological diseases, pre-existing psychiatric illness, alcohol and drug abuses. To avoid influence of age and sex as a co-variable both patients and control were restricted to be within the age group of twenty to thirty years. The controls were clinically examined for any evidence of rheumatological disease and if suspected were subjected for radiological study for evidence of sacroilitis. Both cases and controls were subjected to stress assessment using daily hassles score2, life event score 5 and coping strategies as per coping scale, 3,4. All the scales were previously standardized and validated. They were self administered questionnaires and were in both English and regional languages. Only major life events dating back to previous 7 years were taken. Study was done at L.N Medical College and Reserch Center, in period between January 2017 to January 2018.

Results

Twenty male Rheumatic disease patients, mean age was 24.5 (21-30) yrs, with a duration of disease 3.25 (0.5-5)cyrs with ESR 43 (28-67) and CRP 9.25 93-21) ng per dl. All the patients were on NSAID and disease modifying drugs at the point of screening. Five had received Infleximab and methotrexate and all remaining were on methotrexate and Salazopyrine. The psychometric score are in table with paired statistics value.

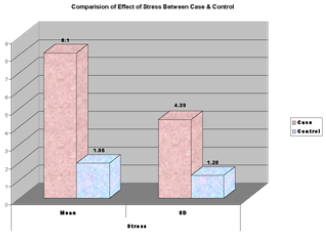

Fig. 1: By the Unpaired T-Test There is significant difference between cases & control and by the comparison of mean (Mean Control < Mean Case) the Stress Play important role in triggering rheumatic diseases.

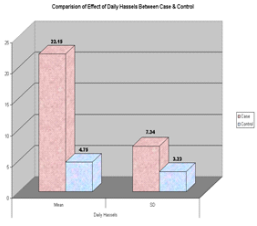

Fig. 2: By the Unpaired T-Test there is significant difference between case & control and by the comparison of mean (Mean Control < Mean Case) the Daily Hassles play important role in triggering rheumatic diseases.

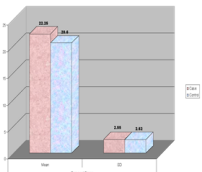

Fig. 3: By the Unpaired T-Test there is significant difference between case & control and by the comparison of mean (Mean Control < Mean Case) the Perseved Stress Play important role in Ankylosing

spondylitis.

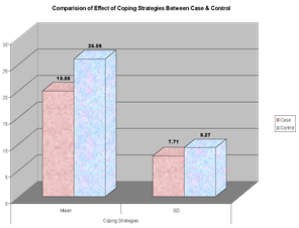

Fig. 4: Shows significant Difference between Case and Control (Means) in the Coping Strategies Play important role in triggering of Rheumatic diseases.

DISCUSSION

AS, a chronic inflammatory rheumatic disorder predominantly affecting the spine, has a substantial impact on the physical and emotional functioning and the quality of life.6-8 Literature evidence indicates the causal relationship between stress and onset of autoimmune diseases.9 Zochling et al. have concluded that infection and work stressors along with genetic predisposition may serve as potential triggers of AS onset.10 The current study results also states the influence of stressful and traumatic life events in the development of AS, especially in susceptible individuals.

The life events and their impact by the nature of the personality were significantly different in patients with AS compared to the control group.

Conclusion

The life events and their impact by the nature of the personality is significantly different in patients with rheumatic diseases compared to the control group. Hence we conclude life stresses seems to be playing a critical role in the development the disease.

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