

Efficacy of Yoga and Meditation Based Lifestyle Intervention on Inflammatory Markers in Patients with Rheumatoid Arthritis

Authors : Surabhi Gautam, Uma Kumar, Rima Dada

Abstract : A sustained acute-phase response in Rheumatoid Arthritis (RA) is associated with increased joint damage and inflammation leading to progressive disability. It is induced continuously by consecutive stimuli of proinflammatory cytokines, following a wide range of pathophysiological reactions, leading to increased synthesis of acute phase proteins like C - reactive protein (CRP) and dysregulation in levels of immunomodulatory soluble Human Leukocyte Antigen-G (HLA-G) molecule. This study was designed to explore the effect of yoga and meditation based lifestyle intervention (YMLI) on inflammatory markers in RA patients. Blood samples of 50 patients were collected at baseline (day 0) and after 30 days of YMLI. Patients underwent a pretested YMLI under the supervision of a certified yoga instructor for 30 days including different Asanas (physical postures), Pranayama (breathing exercises), and Dhayna (meditation). Levels of CRP, IL-6, IL-17A, soluble HLA-G and erythrocyte sedimentation rate (ESR) were measured at day 0 and 30 interval. Parameters of disease activity, disability quotient, pain acuity and quality of life were also assessed by disease activity score (DAS28), health assessment questionnaire (HAQ), visual analogue scale (VAS), and World Health Organization Quality of Life (WHOQOL-BREF) respectively. There was reduction in mean levels of CRP ($p < 0.05$), IL-6 (interleukin-6) ($p < 0.05$), IL-17A (interleukin-17A) ($p < 0.05$) and ESR ($p < 0.05$) and elevation in soluble HLA-G ($p < 0.05$) at 30 days compared to baseline level (day 0). There was reduction seen in DAS28-ESR ($p < 0.05$), VAS ($p < 0.05$) and HAQ ($p < 0.05$) after 30 days with respect to the base line levels (day 0) and significant increase in WHOQOL-BREF scale ($p < 0.05$) in all 4 domains of physical health, psychological health, social relationships, and environmental health. The present study has demonstrated that yoga practices are associated with regression of inflammatory processes by reducing inflammatory parameters and regulating the levels of soluble HLA-G significantly in active RA patients. Short term YMLI has significantly improved pain perception, disability quotient, disease activity and quality of life. Thus this simple life style intervention can reduce disease severity and dose of drugs used in the treatment of RA.

Keywords : inflammation, quality of life, rheumatoid arthritis, yoga and meditation

Conference Title : ICAAIR 2018 : International Conference on Allergy, Asthma, Immunology and Rheumatology

Conference Location : London, United Kingdom

Conference Dates : May 14-15, 2018