Differences in cost of illness and quality of life between rheumatoid arthritis and ankylosing spondylitis in South Korea

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OBJECTIVES: To estimate and compare cost-of-illness (COI) and health-related quality of life (HRQOL) of rheumatoid arthritis (RA) and ankylosing spondylitis (AS) in South Korea. METHODS: Patients with RA (n=196) and AS (n=191) were surveyed by face-to-face interviews at the Rheumatology Clinic of Seoul National University Hospital. Direct costs [medical costs (treatment, drug, private physiotherapy, traditional Chinese medicine, other alternative medicine), non-medical costs (travel, dietary supplements, auxiliary device, home assistance)], indirect costs (productivity loss due to job loss and sick leave) and deterioration in HRQOL of RA and AS patients were measured. HRQOL was assessed using KEQ-5D. Factors associated with COI and HRQOL were analyzed using multiple regression and multivariate logistic regression. RESULTS: COI of AS patients was more than double compared to that of RA patients (RA: 6,446,376 Korean Won, AS: 12,433,629 Korean Won) but HRQOL of RA patients was lower than that of AS patients (RA: 0.49, AS: 0.62). As functional severity worsened in both diseases, the total costs increased accordingly (RA: functional class (FC) I: 4,230,204 Korean Won, FC II: 7,250,674 Korean Won, FC III: 8,046,434 Korean Won, FC IV: 8,206,215 Korean Won, AS: FC I: 8,125,096 Korean Won, FC II: 13,995,292 Korean Won, FC III, IV: 30,118,247 Korean Won) and the HRQOL scores decreased (RA: FC I: 0.67, FC II: 0.50, FC III: 0.29, FC IV: 0.23, AS: FC I: 0.72, FC II: 0.61, FC III, IV: 0.24). Functional severity was the major determinant of COI and HRQOL in RA and AS. CONCLUSIONS: Although the HRQOL of AS patients was not as low as that of RA patients, the COI of AS patients was higher than that of RA patients. Considering the relatively low HRQOL and relatively low medical costs of RA patients, re-examination of reimbursement plan of Korean National Health Insurance is needed to figure out this problem.

TNF-like ligand 1A is a promising biomarker of disease activity in rheumatoid arthritis

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Background: Rheumatoid arthritis (RA) is an autoimmune disease characterized by chronic inflammation of multiple joints. TNF-like ligand 1A (TL1A), a ligand belonging to the TNF superfamily, is expressed by endothelial cells, lymphocytes, monocytes and plasma cells. These are also the key cell lineages participating in the pathogenesis of RA. Moreover, TL1A is up-regulated by proinflammatory cytokines TNF-α and IL-1. We thereby examined the serum and synovial fluid levels of TL1A in patients with RA. In addition, we investigated the relationship between serum TL1A concentration and clinical parameters in RA patients. Methods: Serum samples were obtained from 232 patients with RA and 29 with osteoarthritis (OA). Thirty-eight and 27 synovial fluid (SF) samples were collected from respective group of patients. Additional 45 serum samples before and after (14 weeks) anti-TNF-α treatment were collected from RA patients. TL1A concentrations were measured by ELISA. Clinical parameters were acquired at the time of sampling. Results: Serum concentrations of TL1A in RA patients were significantly higher than those in OA patients (mean±SD, 1327.4±3858.8 pg/ml vs. 150.3±269.6 pg/ml, p=0.0001). The SF levels of TL1A were elevated in patients with RA compared with those in OA (965.7±1617.2 vs. 271.4±238.9, p=0.013). Levels of TL1A were significantly increased in SF than serum in matched samples (RA: p=0.006, OA: p=0.0001). Serum levels of TL1A decreased substantially with anti-TNF-α treatment (p=0.002). Serum levels of TL1A correlated well with DAS28-ESR (r=0.170, p=0.021), DAS28-CRP (r=0.166, p=0.037), SDAI (r=0.201, p=0.016), CDAI (r=0.195, p=0.011) and rheumatoid factor positivity (r=0.876, p=0.044). Conclusion: Serum and SF levels of TL1A were significantly increased in RA patients compared with OA patients, and correlated well with clinical parameters representing disease activity. Our results support that TL1A could be a potential biomarker in assessing disease activity and treatment response in RA patients.