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BRIEF REPORT

Cartilage oligomeric matrix protein/thrombospondin-5 (COMP/TSP-5) levels do not correlate to functional class in patients with rheumatoid arthritis

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Rheumatoid arthritis (RA) can be an incapacitating disorder. The cartilage oligomeric matrix protein/thrombospondin-5 (COMP/TSP-5), a member of extracellular proteins involved in tissue genesis and remodeling, has been considered a potential prognostic marker of RA [1]. Data on the association of functional status of RA with COMP/TSP-5 levels are virtually nonexistent. In the current study, we set up to determine the serum levels of COMP/TSP-5 in RA patients of different functional classes and in healthy controls.

The study was cross-sectional. Fifty-eight patients with RA [2] followed in the Outpatient Rheumatology Clinic of São Lucas Hospital of PUCRS comprised the target population. The Hochberg classification [3] was used to estimate the functional status of RA patients. The control group included 100 consecutive blood donors. Levels of COMP/TSP-5 were evaluated by immunoenzimatic assay (AnaMar Medical TM, Lund, Sweden). Levels above 12 U/L were considered positive [4]. Comparison of groups was obtained by analysis of variation. A 5% significance level was considered for P values.

The medium age was 48±6 years for the control group and of 54±14 years for RA patients ($P>0.05$). The female gender predominated in patients with RA ($P<0.05$). After adjustment for sex and age, the average levels of COMP/TSP-5 were 7.0 U/L (95% CI 6.1–7.9) for the control group and 12.6 U/L (95% CI 11.1–14.1) for RA patients ($P<0.01$). Among RA patients, 25 showed functional class I (43.1%), 14 functional class II (24.13%), 10 functional class III (17.2%), and 9 functional class IV (15.5%). With the exception of individuals in class III, patients from other functional status presented higher frequency of positive test for COMP/TSP-5 as compared to controls ($P<0.001$). In each of the functional classes, the average levels of COMP/TSP-5 were significantly higher than those of the control group ($P<0.05$). The 28 RA patients with elevated COMP/TSP-5 were distributed uniformly in all four functional classes ($P=0.65$).

COMP/TSP-5 serum levels may be a predicting factor for joint damage in RA [5]. High COMP/TSP-5 levels were described in patients with early RA [6]. A positive correlation of COMP/TSP-5 levels with cartilage damage (as measured by the Larsen radiographic score) was described in 62 RA patients [7]. RA patients with severe joint damage had higher COMP/TSP-5 and C-reactive protein levels than patients with milder disease [8]. Nevertheless, other authors reported low levels of COMP/TSP-5 in patients with decreased functional status, probably due to cartilage degradation [9]. A recent report showed that neither baseline serum COMP/TSP-5 levels nor its individual change after 3 months from start of intensive

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exercise was predictive for progression of joint damage in RA patients [10].

COMP/TSP-5 levels were significantly higher in our RA patients than in controls. The average serum levels of the protein remained elevated as compared to controls in all four functional classes of RA patients. Patients with elevated COMP-TSP levels were homogeneously seen in all Hochberg classes. Functional status did not seem to behave as a discriminative parameter for RA patients with elevated COMP/TSP-5 levels. The relationship of COMP/TSP-5 levels with functional status in RA patients should be further detailed.

Disclosures None

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