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Oncoprotein Survivin is a promising new biomarker of rheumatoid arthritis and of successful anti-rheumatic treatment

Maria Bokarewa
Gothenburg University, Sweden

Survivin belongs to the family of inhibitors of apoptosis and is known to regulate the cell cycle progression. Survivin is mostly known as a maker of malignant transformation of cells and is increased during regeneration of healthy tissues. The proto-oncogene survivin has emerged as a biomarker of high clinical relevance in rheumatoid arthritis (RA). We have measured serum levels of Survivin in 339 patients from the BARFOT cohort of early rheumatoid arthritis (RA) at baseline and after 24 months. Additional cohort of unselected 87 RA patients treated with methotrexate and infliximab were evaluated for a potential link between survivin and other tumor-associated proteins in RA. In the BARFOT study, high serum levels of survivin are detected in 56% of non-selected RA patients. A combination of smoking and aCCP antibodies predicted high levels of survivin (OR4.5, $p < 0.001$). Survivin positivity was associated with development of joint damage and predicted its progression. High levels of survivin are often observed in therapy resistant cases of RA recognized by higher DAS28 and lower rate of remission at 24 and 60 months compared to negative-negative patients. Serum survivin levels correlated to metastasin S100A4 and to Flt3-ligand. Regression analysis showed that high S100A4 was predictive for radiographic progression during infliximab treatment (PPV 0.68), this association was dependent on survivin levels.

Conclusions: Detection of survivin levels may be useful for early diagnosis of RA and for the follow-up of the anti-rheumatic treatment.

Biography

Maria Bokarewa has completed her PhD at the Moscow Medical Academy, Russia, 1991 and at the Karolinska Institute, Sweden, 1995. During Postdoctoral studies at Goteborg, she starts research studies on the immune regulation and therapy in rheumatoid arthritis. She is Professor in translational clinical and experimental rheumatology and vice-director of the EULAR Center of Excellence in Gothenburg. She has published more than 120 papers in reputed journals. She is the principal investigator in a number of clinical trials on the efficacy and safety of biological drugs and conducts expert commissions on the pharmacological treatment of autoimmune diseases.

maria.bokarewa@rheuma.gu.se

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