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Relationsh Microbiota, Superantigens and Seronegative of Rheumatoid arthritis Patients

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Background and Aim

- In recent years, human microbiome has attention Increasingly, and more researchers are documented for changes in intestinal microbiome (1). However, there is no documente report on the presence of microbiome or microbial biomarker in the blood of RA patients. The purpose of this study was to assay the effect of the super antigens on the induction of RA Diagnostic biomarkers concentration in Rat.

Methods

- in this study, 100 micrograms of the purified super antigens (purified by Ultrafiltration: Amicon Ultra Centifugal Filter Device) were injected intraperitoneal and intrasynovial into separate rat groups. In time course blood collection and Diagnostic biomarker was measured. The results were categorized and analyzed by ANOVA.

Results

The results showed that 100 µg of supper antigen (toxin) injected in to intra-articular and intra-peritoneal inducted the production of RF. So such that in 40 days of challenges the induction was start and after 50 days the detectable concentration of was reached to 3.4 mg/ml. one-way ANOVA analysis was shown the difference between the groups and with a significant level for groups ($P \leq 0.001$) and for the intervals of the effect of super antigen ($P \leq 0.076$), respectively.

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	Hypothesis	200.598	1	200.598	64.714	.001
group	Hypothesis	198.990	5	39.798	33.732	.001
time	Hypothesis	13.442	4	3.361	2.848	.076

Table 1: Results of the CrP test analysis for various groups of Rats investigated as non-depended variables

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	Hypothesis	4.282	1	4.282	9.701	.036
group	Hypothesis	3.585	3	1.195	6.529	.008
time	Hypothesis	1.767	4	.442	2.414	.112

Table 2: Results of the anti-CCP test analysis of the various examined groups with regard to the non-dependent variables (Dependent Variable: Anti-CCP test)

Conclusion

The results indicate that the exposure of super antigens of in the rats induced the production RA diagnostic biomarkers. This finding may provide new discussion for the Seronegative patients, and also tools for preventing and control inflammatory diseases, including rheumatoid arthritis.
A better understanding of the role of the microbiome and their super antigens in RA disease will help us for the development of the exact pathogenesis of RA (2) and novel therapeutic agents (3).

References

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