NEUTROPHIL, MONOCYTE AND LYMPHOCYTE CHEMOTAXIS IN REITER'S SYNDROME COMPARED WITH RHEUMATOID ARTHRITIS AND RHEUMATIC FEVER (*)

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SUMMARY. This study was performed to investigate the place of chemotactic activities in differential diagnosis of inflammatory rheumatic disorders. Chemotactic activities of neutrophils, monocytes and lymphocytes of the patients with Reiter's syndrome (RS) (n:6), rheumatoid arthritis (RA) (n:10) and rheumatic fever (RF) (n:19) were determined in peripheral blood samples by Boyden chamber technique. Neutrophil chemotaxis in RS and RF found significantly elevated when compared with RA ($p<0.05$). No significant difference was found between RS and RF. Monocyte and lymphocyte chemotaxis showed no significance in all three groups. It is interesting that the results of chemotaxis study were similar in RS and RF which were both considered as reactive arthritis.

Key Words: Chemotaxis, Reiters syndrome, Rheumatoid Arthritis, Rheumatic Fever.

INTRODUCTION

Migration and accumulation of neutrophils, monocytes and lymphocytes to the site of inflammation plays an important role in the development and duration of the inflammatory reaction.

We investigated neutrophil, monocyte and lymphocyte migration in patients with Reiter's syndrome (RS), rheumatoid arthritis (RA) and rheumatic fever (RF) in vitro.

SUBJECTS AND METHODS

Neutrophil, monocyte and lymphocyte migration were investigated in 6 patients with RS, 10 with RA, 19 with RF and 20 healthy controls. All patients and controls were nonfebrile and otherwise healthy. They were not receiving any medication at the time of the study.

Neutrophils, monocytes and lymphocytes were obtained from peripheral blood. Cell migration was determined by modified Boyden chamber method, which was evaluated in micrometers by the leading front method (1,2,3).

Statistical analysis were made by t-student test.

RESULTS AND DISCUSSION

Neutrophil chemotaxis in RS and RF found significantly elevated when compared with RA ($p<0.05$). No significant difference was found between RS and RF (Table 1).

Monocyte chemotaxis chemotaxis was significantly reduced in RA, RF and RS when compared with healthy

Table 1: Neutrophil chemotaxis.

	Migration	n
RA	71 ± 14	10
RF	86 ± 23	19
RS	87 ± 14	6
Controls	83 ± 14	20

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Table 2: Monocyte chemotaxis.

	Migration	n
RA	42 ± 9	9
RF	47 ± 9	16
RS	51 ± 9	6
Controls	58 ± 8	20

Table 3: Lyphocyte chemotaxis.

	Migration	n
RA	38 ± 3	8
RF	31 ± 10	16
RS	34 ± 9	6
Controls	35 ± 8	20

control ($p<0.05$). No significant difference was found between RA, RF and RS groups (Table 2).

Lymphocyte chemotaxis showed no significant difference between all the four groups (RA, RF, RS and healthy controls) (Table 3).

Neutrophil chemotaxis in rheumatic fever and Reiter's disease, both considered as reactive arthritis showed significant elevation when compared with rheumatoid arthritis. This is an interesting finding as a differential diagnostic criteria. Monocyte chemotaxis was found low in all three groups when compared with normal subjects. There was no significant difference between the patients and controls in lymphocyte chemotaxis. The differences between the T lymphocyte subgroups may play an important role in this condition.

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