doi: 10.1111/sji.12569

Bacterial fMLP Modulates Both ROS and Chemotaxis

Dr Jonsson and Dr Ljunggren,

I have recently read an article entitled, 'Bacterial N-formyl Peptides Reduce PMA- and *Escherichia coli*-induced Neutrophil Respiratory Burst in Term Neonates and Adults' by Stålhammar *et al.* published in the Scandinavian Journal of Immunology [1]. The paper nicely showed that fMLP at higher doses (>1 nM) reduces the amount of ROS generated, thus it may alter the course of immunopathology or clearance of infection. I would like to make a contribution to the above findings.

A paper published by Xiaowen Liu, Bo Ma, Asrar B. Malik *et al.* in *Nature Immunology* [2], observed that there is a dose-dependent switching in the chemotactic response of Neutrophils to fMLP. At 50–100 nM of fMLP, chemotaxis was intact and facilitated by pP38 while at higher doses of 500–1000 nM, it was reduced following the recruitment of GRK2 facilitated by pERK1/2.

Therefore, in the light of earlier findings, it seems likely that higher doses fMLP not only reduces ROS but it can also impede the chemotaxis, thus providing another dimension to regulate immune-associated pathology mediated by neutrophils.

References

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2 Liu X, Ma B, Malik AB *et al.* Bidirectional regulation of neutrophil migration by mitogen-activated protein kinases. *Nat Immunol* 2012;13:457–64.

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SCANDINAVIAN JOURNAL OF Immunology AN INTERNATIONAL MONTHLY JOURNAL