P62 - Toll-like receptor 2 and 6 heterodimer formation in Behçet’s disease Patients

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Background
Behçet’s disease is a devastating multisystem immune related disease. Recurrent oral ulceration was observed in 100% of our cohort, followed by dermatological lesions (85.6%) such as folliculitis (85.6%) or erythema nodosum-like lesions (82.4%), rheumatologic manifestation (79.1%), genital ulceration (73.9%) and ocular involvement (68.6%). 15% of Behçet’s disease patients had neurological manifestations and 10.5% had vascular involvement. There is consensus that the complex interplay between the commensal microbial community and the immune response is a fundamental trigger for Behçet’s disease. Therefore, the expression of molecular determinants of pathogen recognition is a key to understanding the capacity of these patients to respond to microbial insult.

Objectives
This study aimed to examine the expression of Toll-like receptors (TLR) 2 and 6 in Behçet’s disease patients and present data on their heterodimer formation. Methods: Brush biopsy samples, peripheral blood monocytes and peripheral blood T cells were examined by flow cytometry and fluorescence resonance energy transfer (FRET) analysis to determine the expression and interaction of TLR2 and TLR6 on the cell surface of Behçet’s disease and healthy controls.

Results
Behçet’s disease oral mucosa had significantly higher infiltration of CD3 (p=0.0119) and CD14 (p=0.0262) in comparison to healthy controls. There was significantly lower TLR2 and TLR6 heterodimer formation in monocytes isolated from peripheral blood samples of Behçet’s disease patients in comparison to healthy controls (p=0.0108).

Conclusion
There is a defect in TLR2 and TLR6 heterodimer formation in Behçet’s disease patients which will potentially affects their ability to recognise and respond to pathogen associated molecular patters and indeed damage associated molecular patterns.