

# Behcet's Disease

Mohammad-Taghi Palizgir<sup>1</sup>, Farhad Shahram, Mahdi Mahmoudi, Maryam Akhtari  
Tehran University Medical Science, Iran  
E-mail: [dr.palizgir@gmail.com](mailto:dr.palizgir@gmail.com)

**Abstract:** Background: Behçet's disease (BD) defined as a systemic complex disorder characterized by recurrent attacks of acute inflammation. This study was performed to determine the effect of Cur cumin and TCDD on pro-inflammatory cytokines in patients with Behcet's Disease.

Methodology:

We enrolled 10 smoking patient, 10 nonsmoking patient and 10 health peoples for control group that were matched in gender and age with patient group. All patients were obtained 35 ml peripheral blood. Monocytes were differentiated to macrophages by M-CSF. Samples cultured with 10nM 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) and 10 and 30 $\mu$ M cur cumin and 3 $\mu$ M Ahr antagonist (CH223191). Total RNA was extracted from all macrophages well. Complementary DNA (cDNA) was synthesized. Measurement of cytokine mRNA (IL-1 $\beta$ , IL-6, and TNF $\alpha$ ) expression by quantitative Real-time PCR was performed. Protein in supernatant was analyzed by Eliza Kit. Statistics analysis was done by SPSS, version 22 and Graph pad Prism were used for plots.

Results:

Patients Mean age was 37 years (mean=37; SD=9.6). cur cumin with 10 and 30  $\mu$ M down-regulated on IL-1 $\beta$ , IL-6 and TNF $\alpha$  (p=0.005 to p=0.008). There is no significant difference between 10 and 30 $\mu$ M. TCDD up-regulated in mRNA cytokines (P=0.024 to P=0.017). Ahr antagonist decreased cytokines expression (P=0.001 to P=0.013).

Conclusion

Cur cumin attenuates pro-inflammatory cytokines via Aryl Hydrocarbon Receptor (Ahr) and maybe ameliorates clinical features like bipolar aphthous in patients with Behcet's Disease particularly in smoking group.

**Key words:** Behcet's Disease, Cur cumin, tetrachlorodibenzo-p-dioxin, Aryl Hydrocarbon Receptor