

Study of Cytokine Profile in Oral Submucous Fibrosis Tissues: Unveiling a Novel Pathogenesis

Oral submucous fibrosis (OSF) is a chronic fibrotic disease of the oral cavity and oropharynx. This condition affects approximately 0.5% of the population in the Indian subcontinent.

Various molecules have been proposed in OSF's pathogenesis, involving cytokines and chemokines.

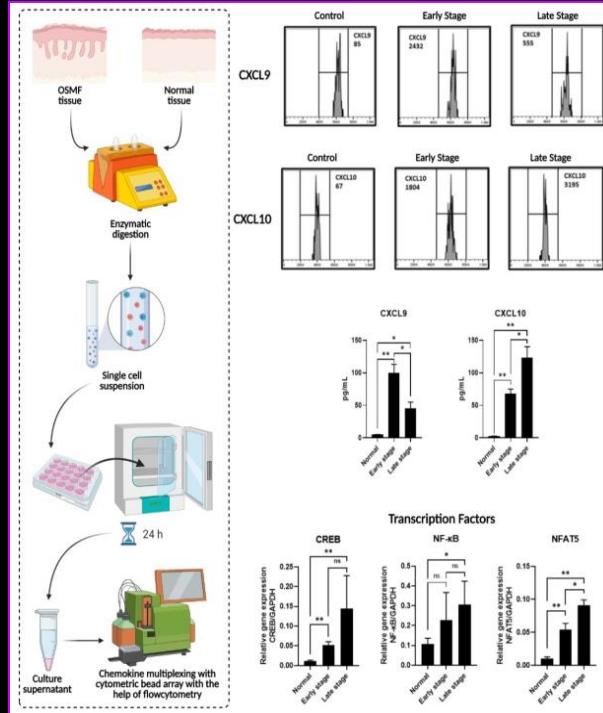
These cytokines can induce chemotactic movement of immune cells towards the fibrotic tissue. The transcription factors like CREB, NFAT5, and NF- κ B are responsible for activation of chemokines.

This study is regarding the transcriptional readiness of fibrotic cells from OSF to produce various chemokines, which in turn create favorable microenvironment for chronic pathogenesis of OSF.

Hypothesis:

It has been hypothesized that cytokine and chemokine levels are altered in particular pattern in tissue samples of various groups of OSF.

Conclusion: The elevated expression of transcription factors and chemokines can be a critical molecular finding about their role in pathogenesis of OSF. OSF stage-specific levels of various chemokines indicate that during the progression of OSF, the secretory profile of fibrotic cells changes with regard to chemokines.



Results:

CXCL11, CXCL9, and CCL2 elevated in early stage of OSF.

CCL3, CXCL10, and CXCL8 elevated in late stage of OSF.

CREB, NFAT5, and NF - κ B elevated in late stage.

Future implications:

The result of this study explains cytokine based novel pathogenesis for OSF.

Gives direction about therapeutic intervention targeting cytokines or its activators for OSF management that can prevent the disease initiation and progression.

In future, follow up studies will unveil the role of cytokines and chemokines (possibly panel of them) as predictive biomarkers of malignant transformation.

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