Inflammatory profile of neurotrophins, IL-6, IL1- β , TNF- α , VEGF, ICAM-1 and TGF- β in the Human Waldeyer's ring

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The palatine tonsils, nasopharyngeal tonsil (adenoid) and lingual tonsil constitute the major part of Waldeyer's ring, with the tubal tonsils and lateral pharyngeal bands as less prominent components. The lymphoid tissue of Waldever's ring is located at the gateway of the respiratory and alimentary tract and belongs to the mucosa-associated lymphoid tissue (MALT). The lymphatic tissue is known to interact with the nervous system and several organs implicated in the host response to a wide range of stressors (Otten et al., 1995; Kaneko et al., 2012; Ogasawara et al., 2011). This study focusses on the expression of some neurotrophins (NTs), their high- and low-affinity receptors in human adenoid tissues, lingual and palatine tonsils via immunohistochemical analysis, as well as on the expression of some inflammatory cytokines and other tissue growth factors (IL-6, IL1-β, TNF-α, VEGF, ICAM-1 and TGF-β)). Light microscopy immunohistochemistry performed on human samples showed to be generally positive for all the NTs investigated (NGF, BDNF, NT-3) and their receptors (TrKA, TrKB and TrKC) as well as the other cytokines and growth factors studied with some different expression levels. Real time PCR analysis is in progress to quantitate these data. Our data corroborate previous studies, suggesting that neurotrophins and inflammatory cytokines may mediate functional signals in lymphoid aggregates (Yusuf-Makagiansar et al., 2002; Ruoco et al., 1990).

References

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Key words

Lingual tonsil, palatine tonsils, adenoid tissue, neurotrophins, immunohistochemistry, receptors, TNF- α , VEGF, ICAM-1, TGF- β , IL-6, IL-1 β .

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