

| <i>University of Baghdad</i>            |   |            |                       |             |
|---|---|------------|-----------------------|-------------|
| <b>College Name</b>                     | <i>College of Medicine</i>  |            |                       |             |
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| <b>Thesis Title</b>                     | <b>Changes in the nasal mucosal stem cells and polymorphism in interleukin-10 promoter gene in patients with nasal polyps</b>   |            |                       |             |
| <b>Year</b>                             | <b>2015</b>   |            |                       |             |
| <b>Abstract</b>                         | <p>The role of stem cells (SCs) in the pathogenesis of nasal polyp (NP) is still controversial, while some researchers approved increase in stem cell count in nasal polyp, others denied this finding.</p> <p>Therefore, this project aimed at studying this phenomenon by using immunohistochemical (IHC) technique by which nestin-labelled stem cell can be identified and counted in normal people &amp; nasal polyp patients.</p> <p>Although several studies have been conducted on cytokines that correlate to the pathogenesis of nasal polyp, relatively little is understood concerning the mechanisms that lead to altered cytokine profiles in this condition.</p> <p>The specific role of interleukin-10 (IL-10) in this condition is particularly controversial, generally IL-10 (unlike most interleukins), is considered to have anti-inflammatory activity, its gene was evaluated in samples of nasal polyp measured by using polymerase chain reaction (PCR) technique and compared with control samples to throw a light on its behavior in this condition.</p> <p><u><i>Patients and methods:</i></u></p> <p>A sample of 58 patients was used in this study, it was divided into control (22) and nasal polyp cases (36). For each case, a nasal mucosal biopsy was obtained, from the inferior turbinate in control group and from the nasal polyp itself in patient group.</p> <p>Specimens were subjected for three tests:</p> <ol style="list-style-type: none"> <li>1- Histopathological study of biopsies stained by Haematoxylin &amp; Eosin (H&amp;E) stain.</li> <li>2- Immunohistochemical study by using nestin to tag the stem cells in the tissue and compare their count between the two groups.</li> <li>3- Polymerase chain reaction study to assess the gene of</li> </ol> |            |                       |             |

**IL-10 in the nasal mucosa in both groups.**

**Statistical analysis was used to compare the results of stem cell score and IL-10 promoter in both groups.**

**Results**

**Histopathological results showed marked increase in eosinophilic cells in mucosa of nasal polyp in the studied cases.**

**Immunohistochemical study showed marked increase in the score of nestin-labelled stem cell in nasal polyp sections as compared to controls, the increase was especially marked in age group 20-29 years.**

**Polymerase chain reaction for IL-10 assessment showed positive results in the nasal polyp group more in females, while all control samples were negative.**

**The increase in stem cell score and IL-10 promoter was significant statistically.**

**Conclusion**

**Histopathologically, nasal polyp in Iraqi sample showed the characters of Western nasal polyps and different from Eastern nasal polyps.**

**Stem cell score increased in nasal polyp indicating a possible role in its pathogenesis, a finding which might modify future lines of treatment of this resistant condition.**

**Interleukin -10, an anti-inflammatory cytokine, increases in the nasal**