

# **Circulating cytokines in patients undergoing tonsillectomy with fibrin glue.**

Authors: Stiller-Timor L., Goldbart A.D., Segal N., Amash A., Huleihel M., Leiberman A., Tal A., Holcberg G., Puterman M.

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## **Abstract:**

**Objective:** Fibrin glue is used as a haemostatic agent or as a sealant. The aim of this study is to objectively evaluate the efficacy of the use of fibrin glue Quixil - a human surgical sealer - in tonsillectomy, for the reduction of post-operative inflammatory response. **Study design:** A prospective randomized single-blind study. **Methods:** The study was performed on 40 consecutive patients undergoing adenotonsillectomy (T&A). Patients were randomly assigned to one of two sub-groups: a study group and a control group. The tonsillar beds of patients in the study group were coated with fibrin glue (Quixil, OMRIX biopharmaceuticals) at the end of the operation; the patients in the control group were treated for hemostasis without the use of fibrin glue. Complete blood counts and circulating pro-inflammatory cytokines (assayed by specific immunoassay - ELISA) were assessed in samples drawn pre- and 16 h post-tonsillectomy. **Results:** Forty patients (aged 5.8 +/- 2.4 years) were consecutively enrolled; 45% (18) of the patients were treated with fibrin glue, 55% (22) were not. Compared to controls, Quixil-treated patients demonstrated a reduction in post-tonsillectomy circulating leukocytes (29.2% vs. 45.4%,  $p < 0.05$ ), neutrophils (28.3% vs. 42.1%,  $p < 0.05$ ), IL-6 (+1% vs. +42%,  $p < 0.05$ ), and TNF-alpha (+8% vs. +26%,  $p < 0.05$ ). **Conclusions:** Intra-operative fibrin glue therapy is associated with decreased immediate inflammatory response following T&A. Further studies are warranted to assess long-term outcome. **Level of evidence:** 1B. © 2012 Elsevier Ireland Ltd. All rights reserved.