

Circulating cytokines in patients undergoing tonsillectomy with fibrin glue.

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

Publication Date: 2012

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.

Copyright © 2012 Elsevier Ireland Ltd. All rights reserved.