

Fibrin glue decreases post tonsillectomy systemic inflammation in children with obstructive sleep apnea.

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Publication Date: 2009

Abstract:

Introduction: Fibrin glue applied to the tonsillar bed can reduce posttonsillectomy bleeding and pain. Post-tonsillectomy anti inflammatory therapy decreases residual obstructive Sleep Apnea, suggesting post tonsillectomy inflammation may be involved in the persistence of the disease. The objective of this study was to evaluate the effect of fibrin glue on systemic inflammation after tonsillectomy. Methods: A prospective randomized controlled trial was performed on 40 consecutive children undergoing tonsillectomy for obstructive sleep apnea. Patients were randomly assigned to the treatment protocol. In the study group, the tonsillar beds were coated with fibrin glue (Quixil, OMRIX biopharmaceuticals) at the end of the procedure. Children in the control group underwent tonsillectomy without the use of fibrin glue. Complete blood count and circulating pro inflammatory cytokines (assayed by specific EIA) were assessed in serum samples obtained pre and 24 hours post tonsillectomy. Results: 40 children (age 5.8 ± 2.4 y, 72% boys, BMI 16.3 ± 2.1 , AHI 5 ± 3.2) were consecutively enrolled. 18 (45%) children were treated with fibrin glue and 22 (55%) were not. Compared to controls, Quixil treatment resulted in a reduction in 24 hours % increment in 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%, $p > 0.05$). IL-1 beta was further reduced in treated patients (56% vs. 11%, $p > 0.05$). Conclusion: Intra operative fibrin glue therapy is associated with immediate decreased inflammatory response. Long term evaluation is needed to assess persistence of OSA.