



Fibrin Sealant and Parotidectomy Wound Complications

Stephen R. Chorney, MD¹ and Jesse Ryan, MD¹

¹SUNY Upstate Medical University, Department of Otolaryngology and Communication Sciences, Syracuse, NY

Abstract

At the end of this presentation, the participants should be able to appreciate the relationship between the use of fibrin sealant and the development of wound complications after parotidectomy.

Objectives

To determine whether the use of fibrin sealants impacted the rates of postoperative wound complications following parotidectomy.

Study Design

Retrospective cohort study.

Methods

We identified patients at an academic medical center between 2011 and 2016 who had a parotidectomy without additional procedure. Records were analyzed to determine whether fibrin glue was used intraoperatively. Primary outcomes were development of seroma, sialocele, abscess, or hematoma within the first 30 days as well as prolonged hospital stay for high drain output if one was placed. Secondary outcomes included smoking status, diabetes mellitus, or the use of Alloderm.

Results

There were 100 surgeries analyzed, 74 superficial parotidectomies and 26 total parotidectomies. The most common pathology was pleomorphic adenoma (39) followed by Warthin's Tumor (27). Fibrin sealant was used in 46 patients. Postoperative wound complications occurred in 20 patients, (11 with fibrin sealant, 9 no fibrin sealant). No statistical difference was noted (23.9% vs. 16.7%, $p=0.454$). We found no significant association between the use of Alloderm, history of smoking, or diagnosis of diabetes and the development of postoperative wound complications. No patients required prolonged hospitalization for high drain output.

Conclusions

The development of postoperative wound complications following parotidectomy does not appear to be significantly impacted by the use of a fibrin sealant.

Introduction

Fibrin sealant (Tisseel®, Baxter Corp., Deerfield, IL) has been approved for use in the United States since 1998 to improve hemostasis and apposition of healing surfaces¹. Tissue adhesives such as fibrin glue are beneficial in rhynchotomy, thyroidectomy, parathyroid surgery, and parotidectomy². There have been small retrospective studies^{1,3} and one randomized trial⁴ showing reduced postoperative drainage, hematoma, or seroma after parotid surgery. This study looked 100 consecutive parotidectomies and determined if complications were reduced in cases where Fibrin sealant was used.

Methods

- Retrospective chart review of 100 consecutive parotidectomies
- IRB approved, single institution, cases from 4 head & neck surgeons
- Inclusion criteria: age 18 years or older, superficial or total parotidectomy, no additional procedure, no revision surgery
- Operative reports, pathology, and office notes were analyzed to determine indication, operative details, and complications
- Decision to utilize fibrin sealant was surgeon preference, as was the decision to use a drain or Alloderm grafting
- Office visits were included until at least the 30 day follow up appointment
- Statistical analysis performed with a two-tailed Fisher's exact test with significance level less than 0.05

Results

- The patients in the fibrin sealant and no fibrin sealant groups were similar with regards to characteristics except the use of a drain (**Table 1**).
- Complications included hematoma or seroma in our patients, there were no prolonged hospitalizations, wound infections, wound dehiscence, or repeat hospitalization within the first 30 postoperative days.
- No difference in complication rates between groups; 23.9% with sealant and 16.7% in the non sealant group, $p=0.454$ (**Figure 1**).
- No significant association between surgical procedure, the use of Alloderm, history of smoking, or diagnosis of diabetes and the development of postoperative wound complications.

	Fibrin Sealant (n=46)	No Fibrin Sealant (n=54)	P value
Total parotidectomy	5 (10.9%)	13 (24.1%)	0.118
Pleomorphic adenoma	19 (41.3%)	20 (37.0%)	0.686
Warthin's tumor	10 (21.7%)	17 (31.5%)	0.367
Penrose or Vessel loop	4 (8.7%)	23 (42.6%)	<0.001
JP or Blake drain	0	21 (38.9%)	<0.001
Alloderm placed	25 (54.3%)	31 (57.4%)	0.841
Diabetes Mellitus	4 (8.7%)	8 (14.8%)	0.539
Active Smoker	12 (26.1%)	8 (14.8%)	0.211

Table 1. Characteristics of patients included in the study with P value based on Fisher's Exact testing.

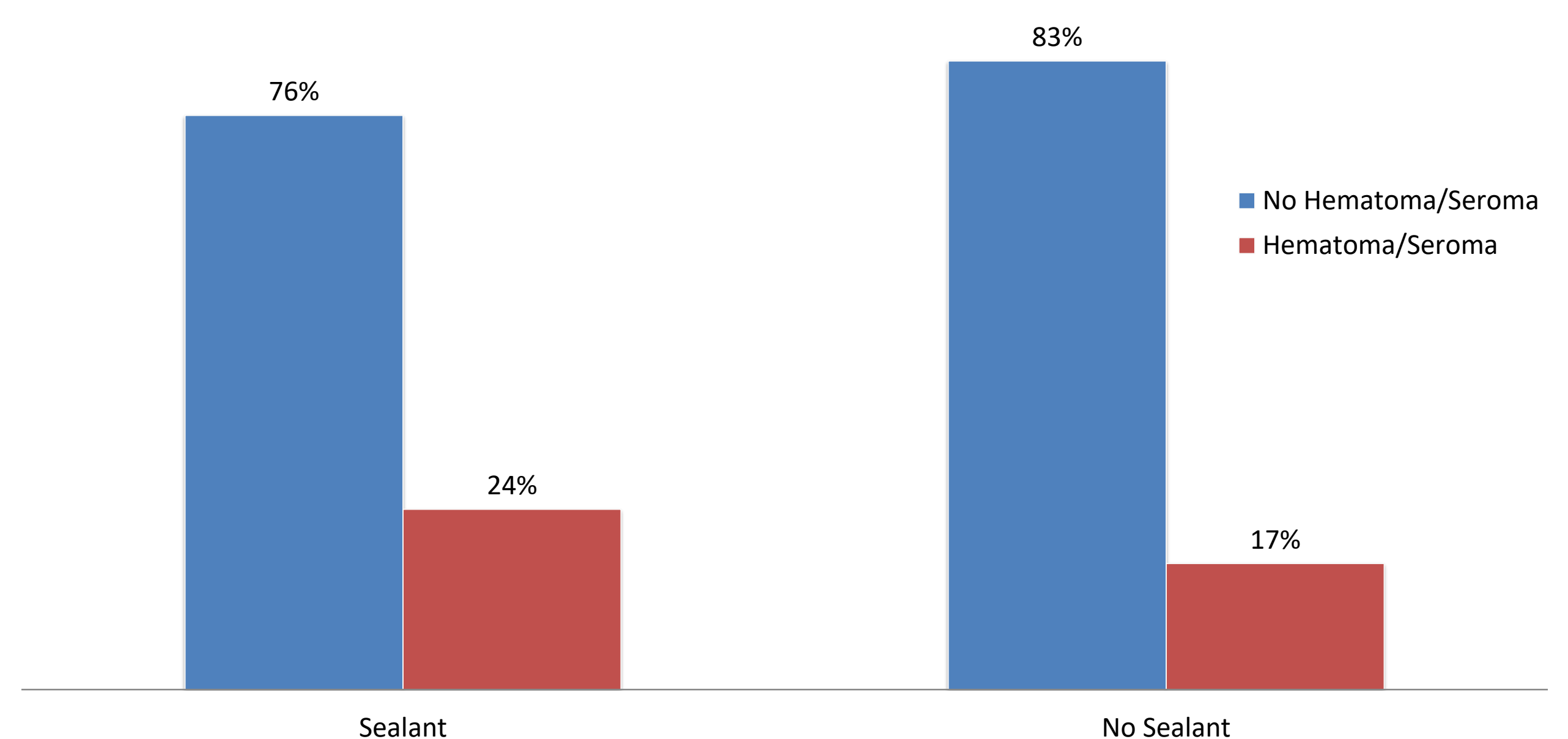


Figure 1. Rates of hematoma or seroma after parotidectomy with or without fibrin sealant. There was a nonsignificant difference in hematoma/seroma ($p=0.454$) between groups.

Discussion

A seroma or sialocele is reported in 5%-39% of parotid surgeries⁵. Our study found similar rates after parotidectomy, without significant difference based on the use of a fibrin sealant. Further, the extent of surgery, history of smoking or diabetes, the use of a drain or Alloderm did not impact rates of postoperative collection. Compared to prior studies, we have one of the larger cohorts of patients looking at post-parotidectomy fibrin sealant outcomes.

A prior retrospective study found that when a drain was placed after parotid surgery, fibrin sealant allowed patients to have earlier drain removal and earlier hospital discharge¹. This group found a significant reduction in drain output if sealant was used and therefore utilized a drain in about 30% of these patients. Similarly, most of our fibrin sealant patients had no drain placed and suggests that placement of a drain may not be required if sealant is used.

The only randomized control trial to date found that 22.7% of patients without sealant developed a seroma versus 3.6% of sealant patients ($p<0.5$). Further, they had nonsignificant reductions in time with a drain in place and hospital stay⁴. Although a higher rate of collections developed in our sealant group, this did not meet significance. Notable limitations in our data are the retrospective design, lack of indication for sealant use, and multiple surgeons represented.

Conclusions

Postoperative hematoma or seroma following parotidectomy does not appear to be significantly impacted by the use of a fibrin sealant.

Contact

Jesse Ryan, MD
Department of Otolaryngology and Communication Sciences
SUNY Upstate Medical University
ryanje@upstate.edu
www.upstate.edu/ent
(315) 464-4636

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