This is the first prospective, randomized study to show the efficacy of Tisseel glue in preventing seromas following parotidectomy. The use of parotid pressure bandage dressing over the parotid area can be used to prevent seromas. As the results have shown, the benefits of using Tisseel glue or pressure dressing to the patients are numerous, with a lower overall healthcare cost to the patient. Drain related morbidities such as infection, fistula, drain obstruction are obviated. Patient satisfaction is also higher without a drain.

Patel et al have shown the decreased drain output with Tisseel glue. Conboy et al have also shown that it is possible to perform parotidectomies with Tisseel albeit with a significant seroma rate of 9.5%. Our method of parotidectomy with Tisseel and a parotid pressure bandage for 12 hours post-operatively obviated the need for drains with a smaller seroma rate of 4%. This has shown that it is the best method without extra costs.

This was a prospective study of 83 patients undergoing superficial and subunit parotidectomies from September 2007 to June 2011 in Singapore General Hospital. Patients were randomised into 3 groups. (figure 1) Intraoperative procedures are shown below. Post operative complications, reaccumulation of lesion, duration of hospitalisation, total follow up duration and drain output (in non-Tisseel salivary patients) were assessed.

RESULTS

Over a period of 4 years, a total of 83 patients underwent superficial parotidectomies of which, 43 had parotidectomies without Tisseel and 40 had parotidectomies with Tisseel. 23 patients with Tisseel did not have pressure dressing and 17 patients with Tisseel had pressure dressing.

There was no statistically significant difference in the three groups of patients in terms of age, gender and race and histology. The most common tumor is pleomorphic adenoma followed by Warthin’s tumor in all 3 groups of patients.

The mean duration of hospitalisation of patients with Tisseel was 2.8 days compared to 1.1 day stay for patients with Tisseel glue and pressure bandage

The use of Tisseel without drains resulted in a higher rate of seromas in patients (53%) as compared to patients with drains (9%). However, with the use of pressure dressing for 24 hours post operatively, the rate of seromas dramatically decreased to 4.3% (table 1).

There is no statistical difference between all three groups with regards to complications. The cost savings for patients in the Tisseel group were also significant. This was taking into account hospitalisation cost of $300 per day. Cost of using 1ml Tisseel was $269. Cost savings for Group A: (2.8-1.1) x $300 - $269 = $241/patient.

CONCLUSIONS

This is the first prospective, randomised, case-control study on parotid surgery with Tisseel sealants and a parotid pressure bandage. It is shown that it is safer and cheaper to perform parotid surgery with Tisseel sealant and pressure bandage. This has changed our practice in our institution and most parotid surgeries are now being conducted with the new technique.