INTRODUCTION

The formation of intra-nasal adhesions following functional endoscopic sinus surgery (FESS) is a well-known cause of surgical failure. This arises from the raw wound edges which result in progressive nasal obstruction and can lead to closure of recess openings. Many publications discuss the roles of various intra-operative nasal packing or haemostatic agents with regard to immediate post-operative haemostasis and wound healing but not after the adhesions have formed. The difficulty lies in maintaining airway patency post-operatively as adhesion recurrence rate is high.

Gelfoam® (Pfizer, New York, USA) is a water insoluble, non-elastic, pliable and porous product made from purified porcine skin, gelatin and water. It facilitates clotting by producing a mechanical matrix aiding the formation of an artificial clot. It liquefies within a week in soft tissue and becomes absorbed in four to six weeks.

We describe our technique in outpatient based adhesiolysis in post FESS adhesions using Gelfoam.

METHODS AND MATERIALS

A retrospective study on all patients operated by the authors who had FESS for chronic sinusitis or nasal polyposis between Jan 2011 and Dec 2011 revealed 16 nasal cavities who developed post-operative intra-nasal adhesions. Adhesiolysis was performed with a sickle knife under local anaesthesia in the outpatient department. Gelfoam was placed over the raw edges as a spacer to avoid reformation of adhesions. Repeated adhesiolysis and replacement of the Gelfoam was carried out on a weekly basis until the edges healed.

All patients (100%) had their adhesions treated successfully with no recurrences after 6 months.

This is the first study describing the use of Gelfoam for treatment of post-operative intra-nasal adhesion formation with 100% success rate and no recurrences. This procedure is easily performed under local anaesthesia in the outpatient setting. This avoids unnecessary inpatient admissions or the risk of general anaesthesia, providing safer and better quality care for patients. The use of Gelfoam is known to induce mucosal irritation but can be easily avoided with regular toileting of the gel matrix weekly.

RESULTS

A total of 12 middle turbinates to lateral nasal wall adhesions, 6 middle turbinate to septal adhesions and 5 inferior turbinates to septal adhesions were found and divided. 7 nasal passages had more than 1 adhesion formation.

Short adhesions formed between the septum and middle turbinates were treated by the second week. Adhesions between the middle and lateral nasal wall required the most judicious management as the raw surfaces are easily traumatised even with the gentlest suctioning. These required treatment for 6-8 weeks before resolution.

All patients (100%) had their adhesions treated successfully with no recurrences after 6 months of follow up. The range of total treatment duration was between 3-8 weeks, with the median at 5 weeks.

CONCLUSIONS

Adhesions are a well known complication following FESS. Repeated surgeries to remove these adhesions are usually unsuccessful as recurrences are common.

Our study is the first to describe a technique for the use of gelfoam for treatment of post-operative intra-nasal adhesion formation with 100% success rate and no recurrences.

The gelfoam acts as a haemostatic agent as well as a spacer for the raw surfaces while they undergo healing by secondary intention.

Though reported to cause further mucosal irritation in the nasal cavity, regular monitoring with toileting of the gel matrix and replacement of the Gelfoam (as required) helped in the healing process whilst avoiding the potential adhesion recurrences seen in other studies.

This procedure is easily performed and repeated as necessary under local anaesthesia in the outpatient setting. This avoids unnecessary inpatient admissions or the risk of general anaesthesia, providing safer and better quality care for patients.

REFERENCES