CONCLUSION
We feel that the routine use of nasal packs after nasal surgery is not justified. Packing should be reserved for the patients with significant oozing after surgery.

REFERENCES

Address for Correspondence:
S. K. Kaluskar
Consultant ENT Surgeon
Tyrone County Hospital
Omagh BT79 0AP
UK
E-mail: kaluskar31omagh@aol.com

ENDOSCOPIC KTP-532 LASER ASSISTED DIVERTICULOTOMY FOR ZENKER’S DIVERTICULUM

P. Hazarika¹, S. Pillai², R. Balakrishnan³, Rohit Singh⁴, M. Hazarika⁵

ABSTRACT: Zenker’s diverticulum, though common in western countries is uncommon in India. This diverticulum is an extension of mucosa through Killian’s dehiscence. Various surgical methods have been described for the treatment of this condition including the use of lasers but none in Indian Journals. In this paper we describe a case of Zenker’s diverticulum where diverticulotomy using KTP532 laser was successfully performed. Its advantages over other techniques are mentioned.

Key Words: Zenker’s diverticulum, diverticulotomy, KTP 532 laser

INTRODUCTION
Hypopharyngeal diverticulum was first described by Ludlow in 1769.¹ A further 27 cases were described by Zenker, in a paper published in 1867, where he correctly described the site of origin of the diverticulum sac. For this contribution, the hypopharyngeal diverticulum was named after him.² Zenkers diverticulum is the extrusion of mucosa through Killian’s dehiscence located between transverse portion of cricopharyngeal muscle and oblique fibers of inferior constrictor muscle. The incidence of this diverticulum is uncommon in this part of the world but cases reported in western literature indicate a frequency of 0.5 cases per 100,000 population per year.² Various surgical options have been described for hypopharyngeal diverticulum. The first endoscopic diverticulotomy was performed by Mosher in 1917 but this procedure failed to gain popularity because of the complication of mediastinitis. In 1960, Dohlmann and Mattsson¹ successfully used the endoscopic approach to divide the common septum with electrocautery and this technique became popular until it was modified by Van Overbeek in 1984.⁴ His modification included the use of an operating microscope and a carbon dioxide laser for transmucosal division of the muscular septum. Fear of mediastinitis delayed acceptance of this approach. The various other open approaches like diverticulectomy and diverticulopexy used for excision of hypopharyngeal diverticulum, have also had complications. Feely reported 37% medical and surgical complication rate in his study.⁵ To minimize these complications Collard et al, 1993 and Martin Hirsch and Newbegin⁶ described the use of endoscopic stapling technique. The visualization of the septal wall between the hypo-pharyngeal and oesophageal mucosa by using the Weerda diverticuloscope and excision with the help of KTP-532 laser is gaining popularity because it is a minimally invasive procedure which avoids complications in the elderly patients with Zenker’s diverticulum.

Kuhn and Bent¹ first described the use of KTP-532 laser for Zenker’s diverticulum without complications except for a single case of cervical emphysema. The present paper deals

¹Prof. & Head, ²Associate Professor, ³Associate Professor, ⁴Resident, ⁵Medical Student Posted in ENT, Department of ENT, Kasturba Medical College, Manipal, India
with a case of Zenker’s diverticulum where diverticulotomy using KTP-532 laser was successfully performed. The advantages and results achieved by this technique has prompted us to publish this case for wider publicity and acceptance of this technique. A review of literature failed to reveal any report of this technique by the Indian authors in the Indian Journals.

CASE REPORT
A 44 year old male patient presented to us with dysphagia of 6 months duration. Dysphagia, mainly for solids was insidious and progressive. There was a history of loss of weight of 4 kg in 6 months. Ear, nose and throat examination were normal except for indirect laryngoscopy which revealed pooling of saliva in the left pyriform fossa. Barium swallow outlined the diverticulum which was found to be arising from the left posterolateral aspect of upper oesophagus extending down to C7, T1 level (Figure 1). Fluoroscopic examination confirmed the pouch.

SURGICAL PROCEDURE
Under general anaesthesia and using a lasoflex endotraceal tube, the Weerda distending, laser friendly hypopharyngoscope (Figure 2) was passed into the right pyriform fossa. On distending the pyriform fossa the oesophageal and diverticulum openings were visualized. The scope was pushed further down to reveal the septum separating the pouch and cervical oesophagus (Figure 3). Two ribbon gauze pieces, one dipped in methylene blue and the other in plain saline were packed into the oesophagus and diverticulum respectively (Figure 4). The scope was further distended to clearly visualize the hypopharyngeal septal wall. KTP-532 laser with 6 mm microtip and a power output of 8W in continuous mode was used to vaporize the septal wall completely, thereby, connecting the hypopharyngeal pouch with the oesophageal lumen (Figure 5). The opening was found adequate and the pouch disappeared completely. Nasogastric tube was passed and scope withdrawn. Immediate post operative period was uneventful. Ryle’s tube feeding was started the next day. Repeat barium swallow done on the sixth post-operative day failed to show any pouch (Figure 6). Patient was allowed oral feeding on sixth day and discharged same day. On follow-up after 3 months the patient was symptom free.

DISCUSSION
Hypopharyngeal diverticulum is an uncommon disease seen more often in the elderly patients with a history of chronic slowly progressive dysphagia. However, it can also be seen occasionally in young patients as in our case. Other less frequent symptoms include cough, regurgitation of food, oesophageal obstruction and aspiration pneumonia. The lesion is more often found in males and almost always on the left side. Investigations in Zenker’s diverticulum should include oesophagogram with fluoroscopy which is very diagnostic where the hypopharyngeal pouch can be clearly visualized with contrast. Hypopharyngoscopy is mandatory in these cases for confirmation of the pouch.

The management of hypopharyngeal pouch poses a surgical dilemma because so many surgical techniques have been described. Arguments have been made out both in favour of open procedure as well as the endoscopic approach. A procedure which offers relief of symptoms, with low morbidity and a short hospital stay is preferred, since most of these lesions are seen in the elderly. For the open or external approach, Feeley et al described a complication rate of 38% while Peracchia et al and Phillipsen et al had zero complication rate with their endoscopic approach. The endoscopic diverticulotomy involves the division of the septal wall that separates the diverticulum from oesophagus. Though few authors have mentioned cricopharyngeal myotomy in addition to excision as a procedure in these cases, we find that it may not be required if adequate excision of septum is performed as seen in our case. Kuhn and Bent observed several advantages in laser assisted diverticulotomy which included, shorter operation time, decreased post-operative morbidity, no skin incisions, no risk to recurrent laryngeal nerve, reduced risk of post-operative stenosis, less postoperative pain, earlier...