# THE SURGICAL TREATMENT OF PHARYNGEAL POUCH

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## ABSTRACT

**Objective:** To determine the anatomical results and complications associated with the surgical treatment of the pharyngeal pouch.

**Material and Methods:** This study was conducted in ENT department of Postgraduate Medical Institute Lady Reading Hospital from the period of 1997 to 2001. All Ten patients were suffering from dysphagia and the diagnosis was confirmed by barium studies. Most of the patients were above the age of 55 years not associated with any co morbidities . All patients were subjected to open exploration with removal of the pouch and crico pharyngeal myotomy.

**Results:** All patients treated by external approach were asymptomatic as compared to inversion and suspension procedure. 2% patients developed complications associated with this procedures. The postoperative radiological appearance of all these patients showed no evidence of any residual pouch.

**Conclusion:** The study shows that excision of the pharyngeal pouch with crico pharyngeal myotomy treats the patient symptoms effectively and is associated with low recurrence rate.

**Key words:** Pharyngeal Pouch, Surgical Excision.

## INTRODUCTION

Pharyngeal pouch, or Zenker's diverticulum, is an out-pouching of pharyngeal mucosa through Killian's triangle. It is thought that due to a combination of muscular incoordination whilst swallowing, and a higher than normal cricopharyngeal tone, a pulsion diverticulum is formed. As the diverticulum enlarges it causes increasing symptoms of dysphagia, regurgitation of undigested food, and large diverticula can result in malnutrition. Overspill of pouch contents can lead to recurrent aspiration pneumonia.[1] Due to these potential risks, once a pharyngeal pouch is diagnosed

consideration should be given to repairing the pharynx. Unfortunately, the surgery for pharyngeal pouch has long been associated with a high risk of complications. This is partly due to the type of surgery itself, and partly due to the frailty of the population which needs the surgery. There are essentially two surgical approaches: surgery performed via an external neck incision, to gain access to the pouch, and that performed endoscopically. Both approaches have their risks and complications.[2]

## MATERIAL AND METHODS

Ten patients who presented with evidence of posterior pharyngeal pouch giving rise to increasing dysphagia and regurgitation of food underwent surgery between July 1997 to July 2001 (table 1). The patients ages

*Fig. 1. Pre-Operative Pharyngeal Pouch*

*Fig. 2. Post External Excision of the Pouch. Barium Performed Seven Days after Surgery to Look for Leak*

ranged between 52 and 63, with a mean age of 59 years. These patients underwent excision of the pouch through external incision with cricopharyngeal myotomy . All patients had nasogastric intubation for feeding for up to seven days and all of them returned to normal diet or so before removal of the nasogastric tube. Except one case who remained on nasogastric tube feeding for three weeks till the fistula healed conservatively. All patients who had external excision of the pouch were discharge within 8 to 10 days with average hospital stay of nine days. (Table 2).

We routinely carried out a post – operative barium swallow in all of these patients. This was perform on sixth day after operation to exclude any fistula before removal of nasogastric tube. We attempt to

PHARYNGEAL POUCH PRESENTING SYMPTOM

| Symptoms | Numbers | Percent |
|---|---|---|
| DYSPHAGIA | 10 | 100% |
| REGURGITATION OF | | |
| UNDIGESTED FOOD | 10 | 100% |
| COUGH – ASPIRATION | 07 | 70% |
| WEIGHT LOSS | 09 | 90% |
| NECK CREPITUS | 01 | 10% |

TABLE – 1

correlate Post-Operative symptoms with the radiological finding. Fig. 1-2

## RESULTS

All ten patients treated by external approach the overall excellent results. One patient who underwent revisional surgery developed pharyngocuteneous fistula. The hospital stay of this patient was prolonged i.e. 20 days. The symptomatic relief and post – operative radiological finding were similar to another patients. There was one transient vocal cord palsy amongst these ten patients. The post-Operative radiological appearances of all these patients showed, no evidence any residual pouch.

PRE OPERATIVE PARAMETERS

| Parameters | Mean | Range |
|---|---|---|
| AGE | 59 YEARS | 52 – 63 |
| SIZE OF DIVERTICULUM(cm) | 4.2 | 3 – 7cm |
| DAYS TO ORAL DIET | 07 | 7 - 18 |
| HOSPITAL STAY | 9 | 8 – 20 |
| OPERATION TIME | 45 minutes | 10 – 45 minutes |

TABLE – 2

*Fig. 3. Pre-Operative Pharyngeal Pouch.*

## DISCUSSION

All of our patients were satisfied with the outcome of their operation with improvement in their symptoms and general condition. Post-operative complication noted in two out of ten cases. The cause of this complication was revisional surgery, extensive adhesions, and post-operative infection. Our study do not correlate with complications reported in the two largest reviews of pharyngeal pouch treatment in the UK[3-4]. Thirty patients were treated by excision of the pouch in the Grays Inn Road series[5]. In this group of thirty patients there were six fistulae, two temporary vocal cord palsies, and one stricture. The average hospital stay was 20 days In the other main series , forty eight patients had their pouches treated by excision[6]. In this group nine patients developed fistulae, and nine had vocal cord palsies, seven of which were permanent. Four developed neck abscesses and two patients got ill with mediastinits. A further three patients developed an oesophageal

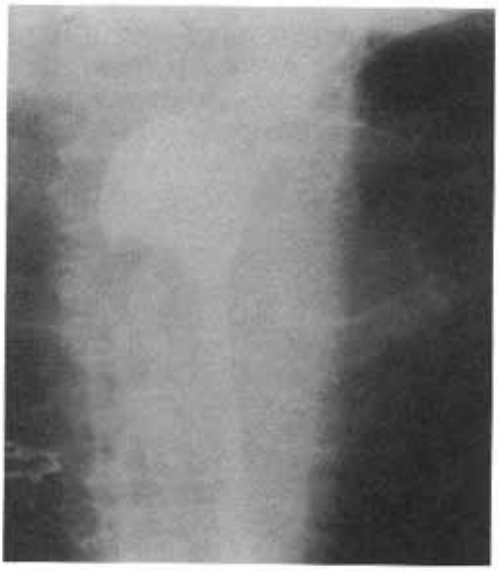

*Fig. 4. Post-Operative appearances performed after seven days after surgery to look for leak. Nasogastic tube still in position.*

stenosis. The average hospital stay was 21 days for patients with complication, and 13 days for those who were complication free. The ten patients in our series who had pouch excision and cricopharyngeal myotomy showed no significant complications except one case who had pharyngo cutenous fistula, treated conservatively. The hospital stay was seven days and the operating time was considerably shorter i.e. about 55 minutes . The patients were also allowed to feed on seven postoperative days when post-operative barium swallow showed no evidence of any leakage or residual pouch.

One patient had a temporary recurrent laryngeal nerves palsy, a known complication of external approach procedure. This has also been reported in inversion procedure as well 7. The cause of this paralysis was two low dissection. We do not have any experience in endoscopic procedures.

In this series no patient developed an oesophageal stenosis in the follow up to 18 months. Although this is a recognized complication of pouch excision. Stenosis probably occurs when too much mucosa is removed or post-operative infection has occurred. In our setup we are practicing pouch excision and cricopharyngeal myotomy on all patients requiring correction of a moderate and large size pharyngeal pouch. Pouch inversion rather than excision is open to the criticism that a coexisting carcinoma may be missed. Whychulis et al.[8] reported 976 cases of pharyngeal pouch seen at the Mayo Clinic. Amongst thses 3 cases of carcinoma were found an incidence of 0.31%. A carcinoma in a pouch is therefore a very rare event and in any case should be identified when the patient is endoscoped preoperatively. It is unlikely that a carcinoma will develop in the inverted remnant the exact cause of which is unknown. The radiographic evidence shares that the inverted pouch undergoes atrophy.

## CONCLUSION

Excision of the pousch is recommended in younger patients, less than 65 years and in a patient who have a moderate to large pouch. If endoscopic diverticultomy is performed, then long term follow up is advocated.This study shows that excision of a pharyngeal pouch with a cricopharyngeal myotomy treats the patient's symptoms effectively and is associated with a low recurrence rate.

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