

First Thirty Oesophagectomies - An Audit of Surgical Outcomes from Regional Cancer Centre, Coimbatore

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1. Background

Esophageal cancer is one of the common gastro intestinal tract malignancy with a poor prognosis. Its incidence has been increasing for past three decades. This particular cancer poses challenges to treatment and currently, multimodality treatment is advocated of which surgery is one of the main component. However, Esophagectomy is a complex surgical procedure with significant morbidity and mortality. This particular malignancy remains highly lethal despite improvement in surgical technique, perioperative management and care causing 13,770 deaths estimated for 2006^[1] Esophageal resection remains the mainstay of treatment for carcinoma esophagus. Various types of esophagectomy being followed at various centres ranging from open, hybrid and totally minimally invasive esophagectomies. Esophagectomy carries considerable operative risk, with population-based studies demonstrating operative mortality varying from 8% at high-volume centers to 23% at low-volume centers^[2]. Various factors contribute to difference in outcomes between centre and currently efforts are being directed toward identifying specific processes of care that might provide the basis for observed volume-outcome correlations. Operative technique, patients factors, preoperative radiotherapy all may be contributing factors for morbidity and mortality. Although reports from several centers demonstrate excellent outcomes for both transthoracic and transhiatal esophagectomy, there always remains debate regarding preferred surgical approach in the management of esophageal cancer. In particular, although it is considered that transthoracic approaches to esophagectomy provide improved surgical exposure for mediastinal lymph node clearance, and hence reducing the risk for locoregional recurrence of esophageal cancers, the long-term oncologic benefit for this strategy has not been well demonstrated. In contrast, as reported in some single-center series, perioperative morbidity and mortality after transhiatal esophagectomy are both low, with this operation tolerated better in older patients with significant comorbidity [3–6]. We performed a retrospective cohort study to evaluate outcomes after esophageal resection, done at our centre.

2. Materials and Methods

All the patients were evaluated with upper GI scopy and biopsy, barium study, contrast CT imaging of chest and abdomen, complete lab evaluation, cardiac and pulmonary evaluation. 11 of the 38 patients received preop chemoradiation and the remaining underwent upfront

surgery. All the patients received adequate pulmonary physiotherapy prior to surgery. Most underwent transhiatal except one for whom transthoracic approach was followed.

Midline laparotomy done and after assessing operability stomach conduit prepared and esophagus mobilised through hiatus. Left neck incision made and after safeguarding recurrent laryngeal nerve and mobilising esophagus it is transected at the cervical esophagus level. Esophagus removed after bringing into abdomen and conduit brought into neck and anastomosis done by hand sewn. Pyloromyotomy done, bilateral intercostal tube kept. Feeding jejunostomy and nasogastric tube placed. Gastrografin study done on day 7 and orals started around day 7 and 8.

3. Study Design

This is a retrospective single centre study. We collected the patient case records and follow up records of all 38 patients who were operated between September 2013 to September 2015. We analysed the demographic data, clinicopathological factors, perioperative morbidity and mortality of all these patients. Statistical Analysis were performed using Microsoft Excel 2007.

4. Results

The following are the various results our study

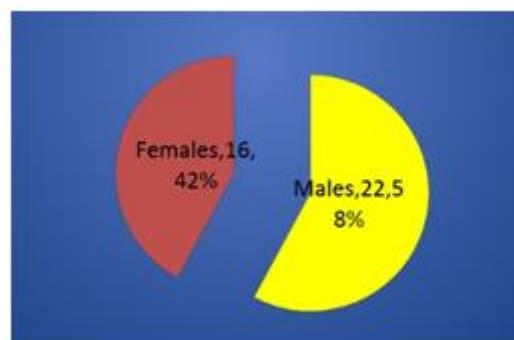


Figure 1: Sex Incidence

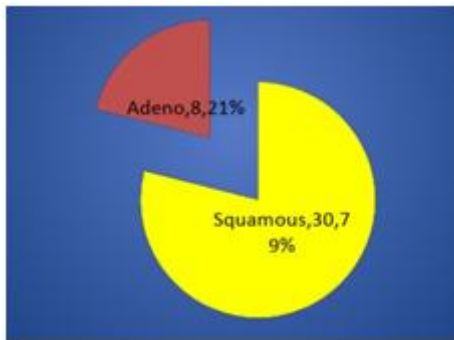


Figure 2: Histology

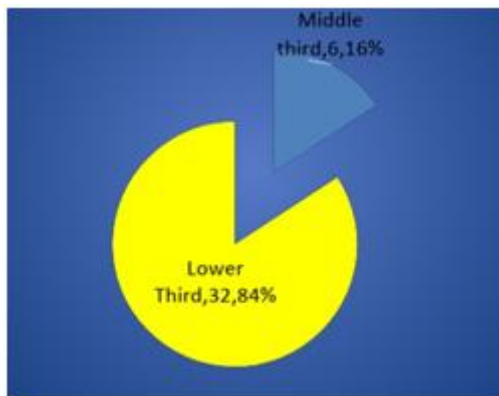


Figure 3: Site



Figure 4: Pathological Stage

In our study series, male patient outweigh the females. As expected lower one third and squamous histology are predominant type. Mean postoperative stay was 13 days (9-36 days) and mean node retrieval was 6(3-18).

Table 1

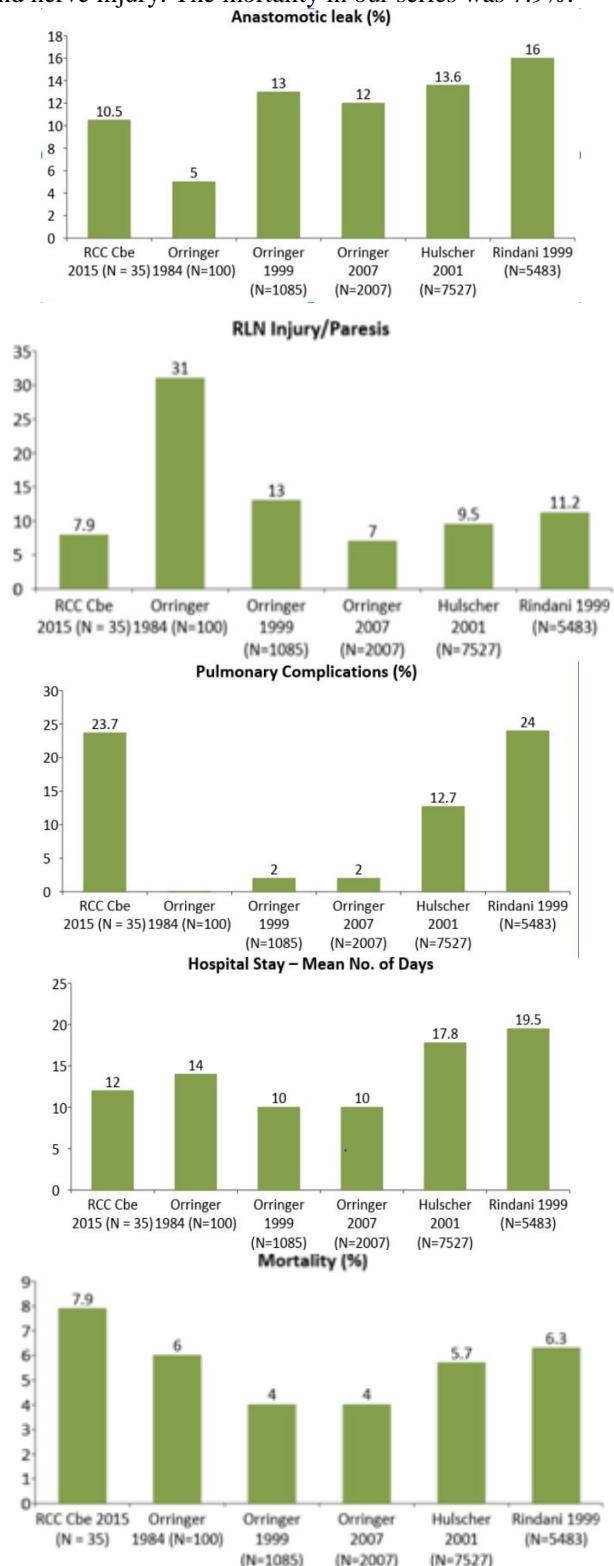
N (%)		
Pre operative CT/RT	Yes	11 (29%)
	No	27 (71%)
Type of Surgery	THE	37
	TTE	1
Mean Post operative Stay 13 days (Range 9 – 36 days)		
Mean Node Retrieval 6 nodes (Range 3-18 nodes)		

Table 2

Complications	N (%)
Respiratory Infection/Atelectasis	9 (23.7%)
Anastomotic leak	4 (10.5%)
Anastomotic Stricture	4 (10.5%)
Recurrent Laryngeal Nerve Injury	3 (7.9%)
Prolonged ICD Drainage (>7 days)	3 (7.9%)
Respiratory failure requiring ventilator support	2 (5.3%)

Gastric Conduit leak and fistula	2 (5.3%)
Complications	N(1%)
Chyle leak	1(2.6%)
Tracheal Injury	1(2.6%)
Splenic injury	1(2.6%)
Wound Dehiscence/Burst	1(2.6%)
Intussusception due to Feeding Jejunostomy	1(2.6%)
Incisional Hernia	1(2.6%)
Obstruction + Colonic Perforation	1(2.6%)

Among the complications pulmonary tops the table in the form of atelectasis followed by anastomotic leak, stricture and nerve injury. The mortality in our series was 7.9%.



5. Discussion

Esophagectomy, a major surgical procedure known for its significant morbidity and mortality. Different types of surgical techniques for Esophagectomy have been adopted^[2,3]. It ranges from historical Conventional approaches to modern day robotic assisted surgeries. In an attempt to decrease the morbidity, minimally invasive techniques are most preferred nowadays. Conventional Open types include Orringer Trans Hiatal and Trans Thoracic procedures like Ivor-Lewis, Mckeown procedures. In our institution we prefer to do transhiatal esophagectomy. The pulmonary complications of our study was seen in 23.7% cases which is as comparable to that of Rindan et al (24%) but high when compared to Orringer et al(2%)^[7-9]. But patients recovered well with intensive spirometry and adequate physiotherapy. The anastomotic leak in our series was 10.5% which is actually lesser than those seen in Orringer (13%) and Hulscher et al. we prefer to do single layer hand sewn technique and it gives us better leak rate. Similarly the recurrent laryngeal nerve injury was far less in our series which is just 7.9% which is again small than those observed by Orringer(13), Hulscher(10%) and Rindani(11.2%)^[10-12]. The other postoperative events we observed were chyle leak, tracheal injury, splenic injury, conduit leak. One patient had inadvertent tracheal injury for which immediate right thoracotomy was done, trachea repaired with vicryl and buttressed with flap. The patient recovered well and got discharged with uneventful postoperative period. The mortality was 5 out of 38 cases contributing 7.9% which is slightly higher than that of Orringer(4%) and Hulscher(5.7%)^[4,5,11].

6. Conclusion

Our regional cancer centre is on the way to become a high volume centre. The morbidity and mortality profile our centre is almost on par with that of the high volume centre and there is a scope for improvement.

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