

**SURGICAL EXPERIENCE WITH OESOPHAGECTOMY FOR
CARCINOMA OESOPHAGUS
AT SHREE BIRENDRA HOSPITAL.**

By :

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INTRODUCTION

Carcinoma of oesophagus is predominantly a disease of men and women between the ages of 50 and 70 years old. It is a dreaded disease which makes the patient unable to swallow his hard earned bread and butter and slowly takes him to death bed. (Murray 1999).

The Incidence of Oesophageal Carcinoma varies throughout the world being 3.5 per lakh among white men and 13.3 per lakh 1,00,000 among black population in USA (Garfinkel 1980). There is highest incidence of Oesophageal Cancer in the Northern Honan Province of China with incidence of 130 per 100,000 population. (Day 1975)

The national mortality of Oesophageal Cancer in the Peoples Republic of China was 19.6 per lakh for men and 9.8 per lakh for women and the Oesophageal Cancer account for 23% of all deaths from Cancer (China Cancer Office 1980)

There is no published data regarding the incidence of Oesophageal Cancer in population of Nepal . Experience with Oesophageal Cancer in TUT Hospital published review of 109 cases in 10 years period. (Sharma 1999). Cardio-Thoracic Surgical Unit of Shree Birendra Hospital came across only 16 cases of Oesophageal Cancer among 205 suspected cases of Thoracic Cancer in last 5 years period. (Rajbhandari 1999)

From India, All India Institute of Medical Sciences has published their experience of 387 cases of Oesophageal Cancer in 15 years period. (Chatopadhyay 1998)

Squamous Cell Carcinoma accounts for 70% and Adeno Carcinoma accounts for 30% of all Oesophageal Cancer (Bolt 1991).

In 1998, Oesophagus was one of the 10 leading sites causing Cancer death in men. The American Cancer Society estimates that 11,900 patients died of Oesophageal Cancer and 12,300 new cases occurred 1998.(American Cancer Society 1999).

AETIOLOGY:

Tobacco is one of the import source of Nitrosamines, byproducts of which are known potent Oesophageal Carcinogens (Burtch 1984). Consumption of Alcohol has been strongly associated with Oesophageal Cancer (Mimic 1988)

Strong evidence implicates Gastro Oesophageal Reflux as the culprit in the Pathogenesis of Adeno Carcinoma of Oesophagus .(Safey 1985)

Careful Clinical studies have shown that approximately 60-70 % of patients with Confirmed Barrette's Adeno Carcinoma have a long standing history of Gastro Oesophageal reflux (Harle 1985).

Clinical Manifestations:

The most common symptom of Oesophageal Cancer is dysphagia (difficulty in swallowing food). Initially it is noted with that of solid foods but ultimately, even swallowing saliva becomes difficult. Weight loss and weakness are the inevitable consequences. Aspiration pneumonitis is

frequent as obstructive symptoms progress.

Diagnosis Radiography

Barium Swallow Oesophageal Radiography study reveals any obstructive lesion with typical irregular rat tail appearance.

Endoscopy

Endoscopy allows direct visual inspection of the Oesophagus and the opportunity to take Biopsy Specimens for Histopathologic and Cystopathologic evaluation.

Imaging Techniques

Computed Tomography (CT) MRI and Endoscopic Ultrasound may be considered complementary methods for Staging Oesophageal Cancer before Therapy.

CT is the standard tool for regional and distant Staging of Oesophageal Cancer. It may detect a thickened Oesophagus, Enlarged Lymph Nodes, and involvement of the mediastinum, Lungs or Liver.

At present Endoscopic Ultrasound provides the most accurate estimation of Cancer's depth of penetration, the length of Oesophagus affected and extent of Lymph Node involvement.

Fine needle aspiration Biopsy of suspicious Lymph Nodes may be useful in differentiating metastatic from nonmetastatic disease. Newer methods of Imaging (e.g. Positron Emission Tomography, (PET), Immunohistochemical analysis of Lymph Node sample to detect micrometastasis may increase the accuracy of staging in future.

TNM Staging

The TNM system is used in Staging Oesophageal Cancer, and the major determinant of long term survival are the depth of local invasion, spread to distant lymph nodes and presence of distant metastatic disease.

TNM Staging of Oesophagus Cancer. (American Joint Committee on Cancer)

T

- T1 - Tumor invading submucosa
- T2 - Tumor invading muscularis propria
- T3 - Tumor invading adventitia
- T4 - Tumor invading surrounding structures.

N

- N0 - No regional Lymph Node metastasis
- N1 - Regional Lymph Node metastasis

M

M0 - No Distance Metastasis.

M1 - Distance Metastasis.

(Including Positive Cervical Nodes)

Stage - I T₁, N₀, M₀

Stage -II -A T₂, N₀, M₀

T₃, N₀, M₀

- B T₁, N₁, M₀

T₂, N₁, M₀

Stage - III T₃, N₁, M₀

T₄, Any N, M₀

Stage - IV Any T, Any N, M₁

TREATMENT

Therapeutic Approach

Treatment options for Oesophageal Cancer are determined by the Stage of the disease at presentation.

When Cancer is found early (i.e. Stage-1) 5 year survival rates approach 90% but few are fortunate enough to be in this situation.

In general, Therapy can be divided into methods used for Cancer that is restricted to the Oesophagus and those used when the disease has spread distantly.

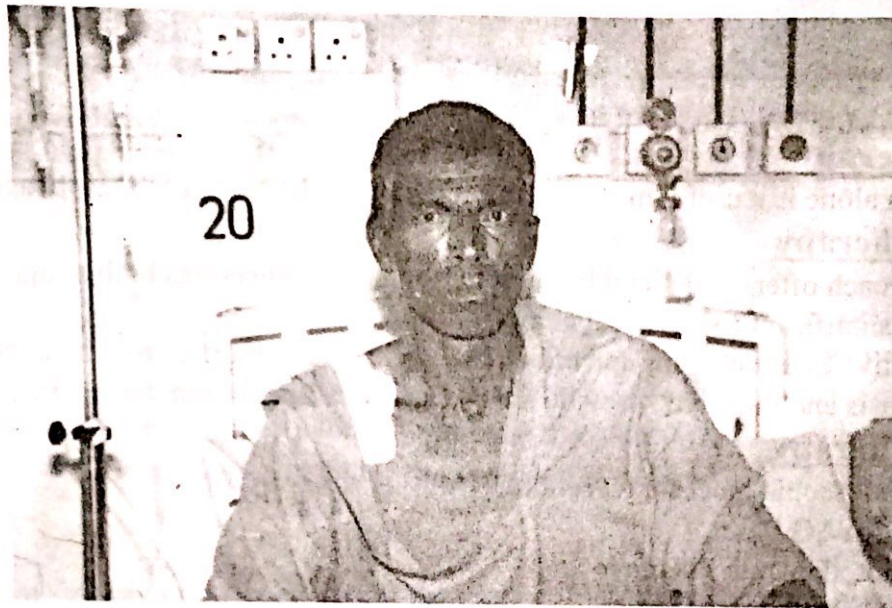
Methods for Local Disease

When Cancer is limited to the Oesophagus, the traditional approach has been Surgical resection. In some cases Radiation Therapy may be used alone or combination Therapy consisting of systemic Chemotherapy along with Surgery or Radiation may be appropriate.

A new option being tried in disease limited to the mucosa is ablation of neoplastic tissue with Endoscopic techniques.

Surgery

Trans Thoracic resection allows more complete dissection of para-aortic Lymph Nodes, transhiatal approach may be less invasive.



SURGICAL THERAPY FOR CARCINOMA OESOPHAGUS

Czerny performed the first resection of the cervical Oesophagus in 1877. First trans thoracic Oesophagectomy was performed in New York by Franz Torek 1913. The first successful resection of the Thoracic Oesophagus with immediate reconstruction was done Oshawa 1933.

Over the years, a wide variety of resective techniques have been employed in the management of Carcinoma of the Oesophagus, both as Staged operation and as definition procedures. There includes Oesophagectomy with Oesophagogastrostomy or interposition of small or large bowel.

Oesophagogastrrectomy with Oesophagogastrstomy (Jackson 1986)

The operation need not be Staged, and is more widely used in the Surgical treatment of lesions at all levels of Oesophagus.

Left Thoracotomy provides satisfactory exposure for performance of resection and intra thoracic anastomosis. For Cancer at mid Oesophagus level requiring an anastomosis proximal to the aortic arch, a combined abdominal and right thoracic approach is employed, Ivor Lewis Technique (Lewis 1946)

When resection is performed for cervical Oesophagus Cancer, Thoracic approach may be used permitting elevation of the freed stomach into the neck with primary cervical Esophagogastrstomy, or a Thoracotomy may be avoidable by Transhiatal Oesophagectomy technique starter by Orringer (Orringer & Slon 1978).



Radiation Therapy

Radiation alone is a useful measure for relieving the dysphagia of Oesophageal Cancer.

Combination Therapy

This approach offers benefit because Oesophageal Cancer has both a high rate of distant metastasis and a significant risk of local complication.

Pre-operative Chemotherapy and radiation may have an important role in decreasing the risk of distant metastasis and they may provide a Cancer free radial margin during Surgery.

Endoscopic Therapy

1. Endoscopic mucosal resection
2. ND:YAG Laser
3. Photodynamic Therapy

Methods for advanced disease.

When oesophageal Cancer is advanced attempts should be made to improve the patient's quality of life. The following palliative Endoscopic techniques may have beneficial effects

1. Dilatation of Stricture caused by the lesion is simple, fast and inexpensive.
2. Insertion of a rigid Stent is effective and inexpensive.

Oesophageal Cancer at Shree Birendra Hospital

Birendra Hospital is a 300-bed referral hospital with advanced facilities such as Magnetic Resonance Imaging (MRI).

It provides services to Regular Army, Retired Army and their dependents. During the last 5-year period from 2051 to 2055 the Cardio-Thoracic Surgical Unit of Shree Birendra Hospital. 16 cases of diagnosed Oesophageal Cancer were admitted.

Their age range from 48 years to 83 years. There were 14 Males and 2 Females. 8 patients had Oesophageal Cancer at mid Oesophageal level and 8 patients had Cancer at lower end of Oesophagus. 11 patients had Squamous Cell Carcinoma and 5 patients had Adeno carcinoma Oesophagus. All of them had some degree of dysphagia at time of diagnosis. 12 patients had already distant metastasis and were not suitable for resection at presentation. They were given palliative treatment.

Remaining 4 patients had localised Cancer with involvement of distal Thoracic segment of Oesophagus.

During Surgery one patient had peritoneal metastasis and had palliative treatment. Remain-

ing 3 patients had Laparotomy and Thoracotomy, Oesophagectomy, partial Gastrdctomy and Oesophago gastrectomy done.

These 3 patients who under went Oesophagectomy and partial Gastrectomy with Oesophagogastrostomy operation had smooth post operative recovery and There was no 30 days Hospital mortality . During follow-up all three of them had some degree of reflux symptoms.

Discussion :

With the high prevelance of Smoking habit and Alcohoh consumption in our general popu- lation. The lower number of Oesophageal Cancer cases presented to us may be only a tip of an Ice Berg. This may be due to lack of diagnostic medical facilities in our rular areas, where most of our population live. Even very few number of diagnosed cases of Oesophagus Cancer presented to us were in very advance Stage not suitable for Surgical resection.

Despite substantial advances in Surgery and anaesthetic techniques a report pulished in 1980 analysed the world literatures on Oesophagectomy for Carcinoma of the Oesophagus between 1953 and 1978 , the cumulative resectability rate was 22% with 3 % 5 years survival rate and an operative mortality in excess of 25% (Earlam 1980).

A review of world literature published in 1990 showed Hospital mortality after resection world wide was 11% (mullin JM 1990)

The cures are possible for Oesophageal Cancer with early detection is evidenced by report from the People's Republic of China from Lintsein Country of the Honan Province, where the incidence of Oesophageal Cancer is highest and wide spread. Screening techniques were employed.

The resectability rate in 170 patient with early Carcinoma Oesophagus was 100% and 5 year survival rate was 90%. (Co-ordination group for Research on Oesophaeal cancer 1976).

Conclusion:

In order to improve the prognosis of patients with Oesophageal cancer we have to under take early medical measures to detect the cancer at early Stage and treat them early.

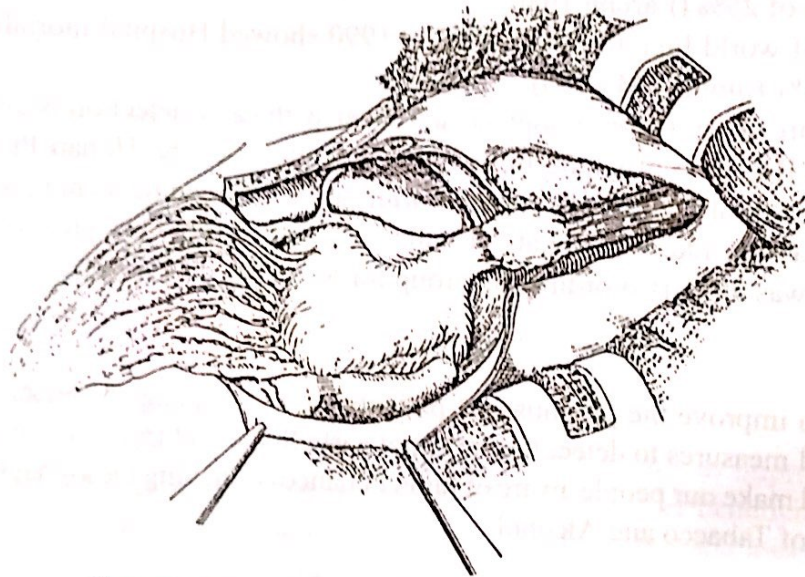
We should make our people aware of higher chances of having Oesophageal Cancer follow- ing consumption of Tabacco and Alcohol.

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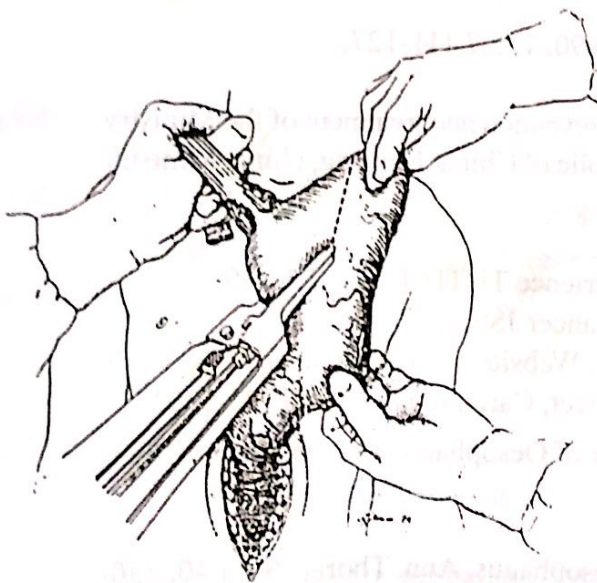
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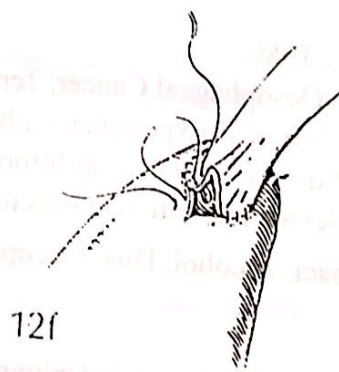
Surgical Steps in Oesophagectomy (Jackson 1986)



Thoracotomy & Laparotomy for Oesophagectomy



Partial Gastrectomy



12f



12g

Oesophago Gastrostomy