

# SURGICAL EXPERIENCE WITH LUNG CANCER IN SHREE BIRENDRA HOSPITAL

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## Introduction:

Primary Lung Cancer strikes about 9,00,000 people every year & it is the most common cause of death for men in entire world . In USA it kills more & more men & women than any cancer. (1)

Hungary & Czechoslovakia had the two highest overall Lung Cancer death rates . (2)

Since 1930 more people have succumbed to Lung Cancer than to all over types of Cancer Combined . In 1991, more than 1,43,000 people died of Lung Cancer in United States . (3)

## LUNG CANCER IN NEPAL

In Nepal a study in TUT Hospital presented Experience with 527 Lung Cancer during practice 1991 to 1996. Histological Diagnosis of Lung Cancer were :

- Squamous Carcinoma in	321 (61%)
-Adeno Carcinoma 98	(18.5%)
-Small Cell Carcinoma	667 (12.75%)
-Large Cell Carcinoma	6 (1.1%)
-Undifferentiated & miscellaneous	35 (7%)

Out of 525 can only 36 cases (6.8%) underwent thoractomy and only 23 (4.3%) were resectable. (4)

In a retrospective study of Histopathological samples in TUTH in 5 year period from (2048 to 2052) B.S. Out of 16,942 samples 2037 (12%) were found to be Cancer. (5)

### The commonest Cancer were :

Stomach CA	330 (16.2%)
Lung CA	225 (11.08%)
Breast Ca	115 (5.06%)
Cervix CA	10%
Skin CA	5%

During this 5 year period Lung Cancer increased from 7% to 15%. (5)

Present Cancer venerio & its changing patterns at TUTH Nepal 3rd. International Oncology Conference Kath. 1996.

According to WHO Histological Classification of Lung Tumors usual 95% Primary Neoplasmas. (6)

I. Squamous cell Carcinoma	30-50
II. Adeno Carcinoma	15-35
III. Large cell Undifferentiated Carcinoma	10-15
<b>Giant cell</b>	
<b>Clear cell</b>	
Iv. Small cell Undifferentiated Carcinoma	20-25
<b>Oat cell</b>	
V. Combined Squamous & Adeono Carcinoma	1.5

## Staging of Lung Cancer (7)

According to Union International Center Cancer (UICC) 1996.  
TNM Tumor , Noder Metastasis Staging System

- ❖ Occult Carcinoma; Tx: No Mo
- ❖ Stage 0: Tis No Mo
- ❖ Stage I: T<sub>1</sub> No Mo ; T<sub>2</sub> No Mo
- ❖ Stage II: T<sub>1</sub>,N<sub>1</sub>, Mo; T<sub>2</sub> N<sub>1</sub>Mo
- ❖ Stage III A: T<sub>3</sub> No-1, MO;T 1-3 N<sub>2</sub> MO
- ❖ Stage III B: Any TN<sub>3</sub> MO; T<sub>4</sub> Any N MO
- ❖ Stage IV: Any T Any N MI

### T=TUMOR

To: No Evidence of Tumor

Tx: Tumor proven by presence of Malignant cells in secretion but no localisation.

T is: Carcinoma in Situ

T<sub>1</sub>: Timor less than 3 Cm.

T<sub>2</sub>: Tumor more than 3 Cm.

T<sub>3</sub>: Tumor Invading Chest wall

T<sub>4</sub>: Tumor Invading Mediastinal Structure Invading &Tumor with Pleural Effusion Malingnant.

### N: Node

NO-No Nodal involvement.

N<sub>1</sub>-Epsilateral Hilar Nodal involvement.

N<sub>2</sub>-Epsilateral Mediastinal Lymph Node involvement .

N<sub>3</sub>-Contra lateral Mediastinal Lymph Node involvement .

M= Distance Metastasis

Once a patient is identified by Radiological opacities is chest as possibly having a Carcinoma of the Lung.

- (I) A tissue diagnosis is required
- (II) The extent of the disease must be determined
- (III) The functional status of the patient must be evaluated .

The determination of these parameters may be regarded as the "Staging process".

Each of there three areas requires the use of various non invasive & invasive techniques.

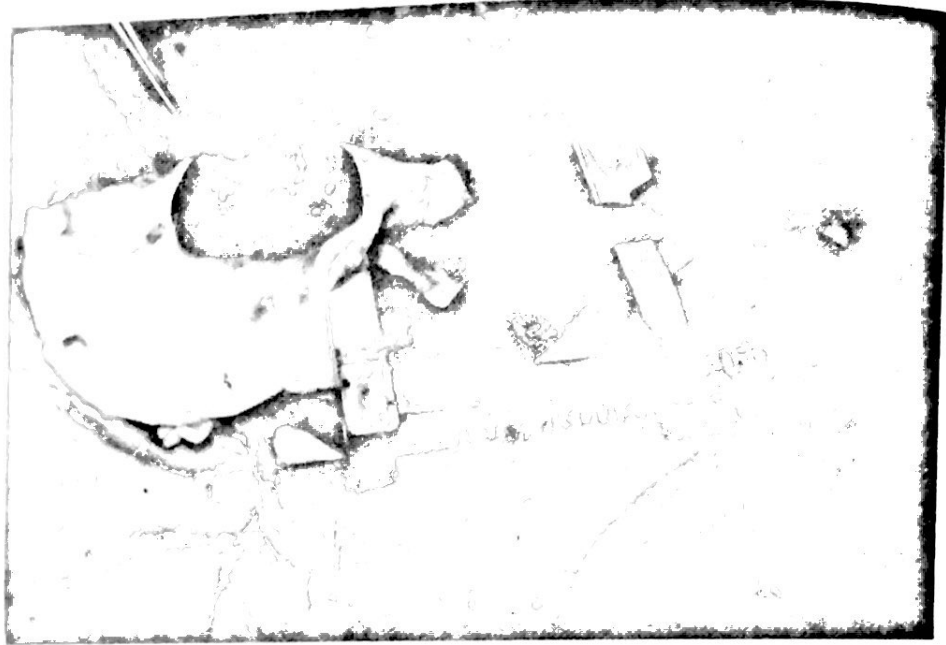
The studies required must be used in a selective manner to be best establish the over all status of the patient & to .determine the appropriate therapeutic approach.

1. Sputum Cystology examination
2. Bronchoscopic Biospy
3. Needle Aspiration Biospy
4. Video-Assisted Thoracoscopy
5. Mediastinoscopy
6. Mediastinostomy
7. Thoracotomy
8. CT Scan
9. MRI Scan

Roentgenographic examination consisting of standard Roentgenograms of the chest are abnormal in 98% of the patients.

It has been estimated that by the time a Tumor is recognised on Roentgenograms of the chest, it has completed three fourth of its natural history. (8)

More over, the Roentgenographic lesion frequently antedates the first symptoms or sign of the disease by 7 or more months. It is to be noted that the limit of visibility of a solitary lesion is one of 0.7cm in size & in most instances rarely a lesion recognised until it is a 1 cm in size. (9)



Picture showing Resected Lung with Cancer mass

## **SURGICAL TREATMENT OF LUNG CANCER**

Over all, the cure rate of Lung Carcinoma is noted, with approximately 10-13% of patients alive at 5 years. (10)

In 1933 Graham Singer performed the first successful Pneumonectomy for Lung Carcinoma. (11)

Over all, for patients with pathologic stage-I non-small cell Lung Cancer undergoing resection the 5 years survival is 75%. (12)

Overall survival in completely resected stage- II non small cell Lung Cancer ranges from 39% to 49%. (13)

Although the majority of Lung Carcinoma are confined to the chest cavity approximately 5% with invade parietal pleura and chest wall. (14)

The overall 5 years survival for completely resected stage-III A. non small cell Carcinoma long range from 26 to 40%. (15)

The overall 5 years survival for stage-III B. mediastinal invasive non small cell Carcinoma of Lung after surgery was only 7%. The average survival for stage-IV non small cell Lung Cancer is 1 to 6 months. (16)





Picture of Lung Cancer patient recovering after surgery

### Treatment of small cell Carcinoma of Lung

For the most part, small cell Carcinoma of Lung most patients present with distance metasform & are not a Surgical disease. Once the diagnosis is established & staging done, treatment consists chemotherapy & Radiotherapy for most of patients.

Higgins et al (17) & Shield et al (18) revised small cell Carcinoma Lung with resection & Chemotherapy with good results of 5 year survival following early resections & Chemotherapy.

### Lung Cancer In Shree Birendra Hospital

During 4 year period from BS 2051 to 2054, 416 patients attended Cardio-Thoracic Surgical OPD at Shree Birendra Hospital.

Of them 84 (20%) had Radiological opacities in chest X-Ray suspected of Carcinoma of Lungs.

Out of 84 cases 26 (30%) were histologically Diagnosed as Carcinoma of Lungs.

Out of 416 OPD patients 26 (6%) had Lung Cancer .

The following were the Histologic diagnosis of 26 cases of Lung cancer.

Squamas Cell Carcinoma	11 (42%)
Adeno Carcinoma	8 (30%)
Small Cell Carcinoma	1 (4%)
Non Hodgikins Lymohoma	1 (4%)
Secondaries	5 (20%)

Out of 26 diagnosed cases of Lung Cancer 16 (60%) cases had thoracotomy and resection of Lungs . This included some cases of Diagnostic Thoractomy.

11 (42%) had palliative Radio -Therapy

6 (23%) had Chemotherapy.

Among 26 cases of Lung Cancer 4 (15%) cases were from Regular Serving Soldiers (JCO) and 22 (85%) cases from retired soldiers and family .

Most of these patients were smokers.



Most of the cases of Lung Cancer presented very late . By the time the cases were diagnosed they were already in stage-III A/B and going to stage-IV. Those presented Radiologically & MRI study to be in stage-II and were also found during surgery to be in more advance stage .

## CONCLUSION

In our country also incidence of Lung cancer is increasing and Lung cancer are diagnosed more frequently these days.

In my opinion most of cases of Lung Cancer in our medical set up present very late . By the time the cases are histologically diagnosed they are already in advance stage not suitable for surgery.

Most of the cases of Lung Cancer had to depend on palliative Radiotherapy and Chemotherapy.

Some the factors responsible for this situation are:

- (i) High incidence of smoking Habit in our population.
- (ii) Non-availability of Medical facilities in our rural set-up where most of population live.
- (iii) High prevalence of pulmonary Tuberculosis confusing Clinical and Radiological Diagnosis.
- (iv) Clinical practice of Anti Tubercular treatment trail.
- (v) Reluctance on the part of patient to undergo surgery early.

For better long term prognosis and survival of Lung Cancer patients, we need facilities for frequent medical checkup and screening programme to diagnose stage-I and II. Lung Cancer cases for early Curative Surgical Resection & Chemotherapy in case of Small Cell Lung Cancer.

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