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## **SURVIVAL OF LUNG CANCER PATIENTS SEEN AT THE LUNG CENTER OF THE PHILIPPINES FROM JANUARY 1991 TO JUNE 1997**

By: Bai Naida V. Sinsuat, M.D., Sullian Sy-Naval, M.D., FPCCP

Lung cancer is a major cause of cancer deaths throughout the world, in both developed and developing countries, accounting for about 28% of all cancer deaths. Despite the increased number of cancer deaths, survival among patients with lung cancer appears to have improved over the last several years. Revisions in the staging of non-small cell lung cancer were made to provide greater specificity for identifying patient groups with similar prognoses and treatment options. This study aims to analyze the effects of the modified staging and treatment on the survival of patients with lung cancer seen at the Lung Center of the Philippines.

Patients at the Lung Cancer Registry of the Lung Center of the Philippines registered from January 1991 to June 1997 were included in this study. A total of 4,036 patients were included in this study. One hundred nineteen patients were excluded because of incomplete entries. There were 3,094 (80.6%) males and 746 (19.4%), females. Their ages ranged from 19-89 years old. There were 3,303 (86%) patients with non-small cell lung cancer and 537 (14%) with small cell lung cancer. Adenocarcinoma was the most common histopathologic subtype (33%) followed by squamous cell carcinoma (30.6%) and non-specific non-small cell lung carcinoma (21.2%).

Surgery is the treatment of choice for lung cancer but only about 20% of tumors are suitable for potentially curative surgical resection. Operable patients who are clinically Stage IA/IB or IIA/IIB are usually treated with surgery, since this is the treatment that has produced the vast majority of long term survivors.

Five year survival for Stage IB squamous cell carcinoma was 49%; while for Stage IB adenocarcinoma was 0.09%. Pairwise comparison between operable stages showed statistically significant differences in survival of patients who underwent surgical resection. In patients diagnosed to have operable stages IA to IIIA of adenocarcinoma, squamous cell carcinoma and nonspecific non-small cell lung cancer, 52%, 67%, and 71%, respectively, opted to receive basic supportive care and only 20%, 7.2% and 6.1%, respectively, opted for surgical resection. Inoperable patients in Stage IIIB or IV usually undergo chemotherapy and/or radiotherapy. The benefits of chemotherapy in the present study were noted in patients with nonspecific NSCLC. No statistically significant difference was noted in patient adenocarcinoma and squamous cell carcinoma. The benefit of radiotherapy in the present study was noted in patients with nonspecific NSCLC. No statistically significant difference was noted with adenocarcinoma, and squamous cell carcinoma. *Phil. Journal Chest Diseases*. Vol. 13 pp. 1-6.

## **A REVIEW OF HISTOLOGICALLY PROVEN BRONCHOGENIC CARCINOMA CASES SEEN AT THE UP-PGH (1992-1997)**

By: Ester Jean R. Rosaros, M.D., Jubert P. Benedicto, M.D.,  
Aileen D. Wang, M.D., FPCP, FPCCP

A review of histopathologically proven cases of bronchogenic carcinoma seen at the UP-PGH from January 1, 1992 to September 30, 1997 was made. Seventy-seven cases were retrieved. Patients were mostly male smokers who were greater than forty years old. Nonproductive cough of less than six months was the manifestation. Most cases were squamous cell carcinoma and were already in the advanced stages when diagnosed. Surgery was recommended for early stages while late instances mainly received radiotherapy. Thirty nine percent refused any intervention and a total of twenty (26%) died after consult or during their hospital stay.

A comprehensive and rational plan to bronchogenic carcinoma patients is emphasized and a multidisciplinary team approach is recommended. *Phil. Journal Chest Diseases*. Vol. 13 No. 1 pp: 7-11.

## **IMPACT OF THE LUNG CENTER OF THE PHILIPPINES ASTHMA CLUB EDUCATION SEMINAR ON THE QUALITY OF LIFE OF ASTHMA PATIENTS**

To assess the impact of the LCP Asthma Club Education Seminar on the quality of life of asthma patients, 48 asthmatics who attended an Asthma Club Education Seminar and Workshop at the Lung Center of the Philippines were studied. The five-hour course was designed to teach the basics of asthma, improve inhaler and peak flow monitoring skills and increase the level of competence in a guided self-management plan to control asthma. An asthma specific quality of life questionnaire was administered before the education seminar and eight weeks later. The questionnaire provided four individual measures: activity limitation, asthma symptoms, emotional dysfunction, and avoidance of environmental exposures. After an 8-week interval, asthma patients reported an improvement in the four asthma quality of life domains as well as in the over-all quality of life ( $p = 0.0004$ ).

The improvement in the QOL is surmised to be directly due to control of asthma which is in turn attributed to increased knowledge in the pathogenesis of asthma, environmental control measures to reduce exposure to indoor and outdoor triggers, recognition of worsening asthma and increased utilization of inhaled anti-inflammatory agents. Despite the fact that only 25% of the subjects adhered to the use of a peakflow meter and kept an asthma diary, better control of asthma in the population studied was still evident. *Phil. Journal Chest Diseases*. Vol. 13 No. 1 pp: 12-17.

**BRONCHIAL PROVOCATION CHALLENGE TESTING USING  
HYPERTONIC VERSUS HYPOTONIC AEROSOLS IN SUSPECTED  
ASTHMATIC PATIENTS – A Double Blind Cross-Over Study**

By: Mateo, Maria Paz B., M.D., Mojica, M. R.M.T.,  
De Guia, T.S., M.D., FPCP, FPCCP

Bronchial provocation testing is a diagnostic and research tool used to quantify the degree of airway reactivity and evaluate symptoms suggestive of asthma with generally no evidence of airways obstruction on spirometry. This prospective double blind crossover study was undertaken to: 1) compare the bronchial reactivity response of patients suspected to have bronchial asthma with inhalation of hypotonic versus hypertonic aerosols and, 2) assess whether the bronchoconstriction produced by hypertonic aerosol challenge is comparable with that of hypotonic aerosol challenge in the same subjects, in lieu of methacholine and histamine which are not readily available in our center.

Twenty-three patients were also to complete the crossover study. Patients had history of bronchospasm, coughing and wheezing in the face of a normal pulmonary function test. Airway reactivity response was determined through a fall of 15% or more using bronchoprovocation challenges and an increase of 15% or more using bronchodilator challenges in FEV<sub>1</sub>, and PEFR values, and the occurrence of peak bronchoconstrictor effect (onset of wheeze on auscultation) after each aerosol challenge. The study showed that the fall in FEV<sub>1</sub> using hypertonic aerosol solution was  $-0.48 \pm 0.24$  as compared to hypotonic aerosol solution which was  $-0.31 \pm 0.22$ , the difference of which was statistically significant ( $p < 0.05$ ). The decline in the PEFR values was comparable for both aerosol solutions ( $p > 0.05$ ). The time of onset of peak bronchoconstrictor effect (onset of wheeze on auscultation) was  $11.48 \pm 6.67$  minutes and  $18.61 \pm 8.31$  minutes with hypertonic and hypotonic aerosol solution was better in terms of producing a decline in FEV<sub>1</sub>. In addition, it takes a shorter period of time to achieve bronchoconstrictor effect with the use of hypertonic aerosol solution than with the use of hypotonic aerosol solution. *Phil. Journal Chest Diseases*. Vol. 13 No. 1 pp: 18-22.

## **INFLUENZA VACCINE AS PROTECTION AGAINST ACUTE EXACERBATION IN COPD**

By: Rachel Sanico-Caseja, M.D., Vincent M. Balanag Jr., M.D., FPCP, FPCCP

Respiratory infections are commonly associated with acute respiratory failure in COPD patients. Pathogens are mainly attributed to bacteria but respiratory viruses have emerged as important etiologic agents particularly influenza virus that is associated with a more severe illness. We conducted a double blind parallel randomized placebo controlled trial of vaccination against influenza in COPD patients.

Patients were recruited from February to August 1995. Fifty-two COPD patients of the Lung Center of the Philippines COPD Support Group were enrolled during the study period. Five dropped out. A total of 47 patients were finally included. Subjects were classified as mild, moderate, or severe COPD based on spirometric measurements. Under each classification, patients were randomly assigned to receive placebo or vaccine by one investigator. The occurrence of flu-like illness, occurrence of acute exacerbation, unscheduled visits of physicians, emergency room visits and/or admissions were monitored through monthly follow up. Both patients and the investigator who followed up the patients were blinded. Mortality was noted during the study period. Student's t test for continuous variables whole chi square with Fischer's exact test for discontinuous variables were used. Odds ratio and 95% confidence interval were obtained.

Clinical characteristics between placebo and vaccine group were well matched. Patients in the vaccine group showed fewer medical consultations ( $p < 0.05$ ), ER consults and/or admissions ( $p < 0.005$ ), and hospitalizations alone ( $p < 0.05$ ). A 50% reduction in the risk for medical consultation and 69% reduction in the risk for hospitalization were seen in the vaccinated COPD patients although not statistically significant by odds ratio. Whereas, the reduction in ER visits was significantly reduced by 71% (confidence interval = 1.276 to 9.599). No difference in mortality was seen between the two groups.

Patients who received the vaccine from February – March 1995 an increased episode of acute exacerbation ( $p < 0.05$ ) but the associated flu-like illness was decreased ( $p < 0.004$ ) whereas none were seen in patients who received the vaccine after March 1995.

Therefore, influenza vaccine reduces the severity of acute infectious exacerbation in COPD patients. *Phil. Journal Chest Diseases*. Vol. 13 No. 1. pp: 23-26.

## **PULMO 2: A LOCALLY DESIGNED VOLUME CYCLED VENTILATOR**

By: Feriza Luna, M.D., Simon Pleta, M.D., George Reyes, M.D.,  
Abundio Balgos, M.D., FPCCP

Volume cycled ventilators are necessary equipment for life support in critically ill patients who are unable to initiate or sustain adequate ventilation or breathing. At present, these ventilators are all imported and expensive.

The Pulmonary Section of the Philippine General Hospital, has developed a volume cycled ventilator prototype (PULMO 2) which possesses the following features: 1) 3 mode selection system: control assist control and SIMV, 2) pop-off valve, 4) an alarm, should a disconnection of the patient happen, and 5) a sensitivity adjustment.

Initial animal studies on the Pulmo 2 ventilator have shown its utility and safety with no adverse effects on hemodynamics and lung mechanics. Studies of its safety and reliability, durability and effectivity in maintaining adequate ventilation among humans will follow. The cost estimate for this prototype ventilator is roughly a mere one-fourth of that of imported ventilators with similar features, making this device very relevant to the national needs and the University's mission and vision. *Phil. Journal Chest Diseases*. Vol. 13 No. 1 pp: 27-30.

## **MANAGEMENT AND OUTCOME OF BRONCHOPLEURAL FISTULA IN TUBERCULOSIS – The Philippine General Hospital Experience**

By: Mary Alexis P. Pollentes, M.D., Ethel Marie B. Tangarorang, M.D.

Bronchopleural fistula is one of the rarer complications of pulmonary tuberculosis. Recently, with the resurgence of tuberculosis, there could be a greater incidence. In order to better diagnosis this condition, this study was undertaken to describe the management strategy used and the eventual outcome of patients with pulmonary tuberculosis complicated by bronchopleural fistula. Cases were identified by looking at the logbooks of the TCVS and pulmonary disease sections of the Philippine General Hospital. Charts of patients signed out as bronchopleural fistula, pneumohydrothorax, TB empyema, pleural effusions and pneumothorax secondary to PTB, admitted from October 1993 to October 1998 were retrieved. A total 26 charts were available. Of these, 22 were diagnosed to have bronchopleural fistula due to PTB.

Nineteen of the cases were male with an average age of 41 years old, the youngest being 19 years old and the oldest 66 years old. Twelve patients had co-morbid chronic illness, namely, malnutrition (4), anemia (3), diabetes mellitus (4), COPD (1), Cor pulmonale (1), and congenital heart disease due to ASD (1). Several patients had more than one co-morbid illness. Ten patients had previous anti-TB treatment with only one completing the course. Eleven were either sputum or pleural flue (+) during admission.

The hospital stay ranged from 5 to 50 days with an average of 26 days. All except one were given at least quadruple anti-TB medications with or without additional antimicrobials (10-14 days). Anti-TB treatment was generally extended beyond their hospital stay. All patients underwent chest tube drainage and it turned out to be the only procedure needed to close the BPF in 10 patients, allowing chest tube removal prior to discharge in 8 patients. In 11 patients, this procedure was not associated with BPF closure during hospital stay and they were sent home on an “open chest tube” with a modified Heimlich valve. Two of these patients had their tubes eventually removed in subsequent OPD follow-up. A significant number (7) of these patients were not accounted for by the OPD charts and considered lost to follow up. Five patients underwent further surgical interventions: right upper lobectomy (1) open window (2), decortication (1), and thoracotomy for closure of BPF (1). The implications of these findings were further discussed. *Phil. Journal Chest Diseases: Vol. 13 No. 1. pp: 31-34.*

***CASE REPORT:***

**6.5 kg BENIGN MESOTHELIOMA (Solitary Fibrous Tumor)**

By: Misaci C. Cruz, M.D., Shirley Jane C. Panganiban, M.D., Fernando Ayuyao, M.D., FPCCP, Jose M. Danguilan, M.D.

Mesothelioma even of the pleura alone, is a ubiquitous pathological designation. The diffuse variety is associated with an ominous prognosis. The localized mesothelioma generally has been assumed to be benign.

A case of a 14-year-old male presenting with difficulty of breathing was admitted at a private hospital where chest radiographs showed opacification of the right lung. He was managed as a case of pleural effusion but with no improvement. On admission to this hospital, chest radiographs and CT scan of the chest were done revealing opacification of the right lung and a huge mass, respectively. Diagnostic and therapeutic thoracotomy was done with resection of a 30 cm x 32 cm x 10 cm mass weighing 6.5 kg. Histopathological report was consistent with a solitary fibrous tumor. Patient stayed at the hospital with no post-operative complications noted. He was discharged well.

Although occurrence of benign mesothelioma is rare, it occurs in 5% of all pleural tumors. Its presentation is typically as that in our case. The one reported here seems to be largest solitary fibrous tumor reported in relation to one previously reported which was 4.54 kg. Its huge size is a paradox because of its good prognosis, and its overall mortality rate is 12% owing to the post-op results. *Phil. Journal Chest Diseases*. Vol. 13 No. 1 pp: 35-37.