

SUPAWADEE KONCHOM : STUDIES OF CELLS AND BIOCHEMICAL PARAMETERS IN BRONCHOALVEOLAR LAVAGE FLUID AND SERUM FROM LUNG CANCER PATIENTS . THESIS ADVISOR : ASSOC . PROF . PIYARATANA TOSUKHOWONG, PICHET SAMPATANUKUL, MD., ASSIS.PROF. SOMKIAT WONGTHIM,MD. 115 PP. ISBN 974-579-597-6

Bronchoalveolar lavage (BAL) fluid is not only useful in studying cells and biochemical changes , but also useful in diagnosis of pulmonary diseases as well . Because lung cancer is an important public health problem and becomes one of the leading causes of cancer deaths in Thailand. Many studies have been reported in varying aspects but there is only a few studies concentrating changes in alveoli of lung cancer patients . The purpose of this study is as following ; to study cells and biochemical parameters values in BAL fluid comparing the events in the cancered lung to the clinically non- cancered lung . Biochemical parameters values in BAL fluid from both sites of the lungs are also compared with serum in each patient .

Eighteen cases of cyto or histopathologic proved lung cancer were studied . The average age was 67 ± 9.7 year . There were 16 men and 2 women . The cytological study has revealed that mean total cells in BAL fluid from the cancered lung had significantly threefold higher than the non-cancered one . Mean total cells in BAL fluid from both sites of the lungs in this study were higher than normal range in the literature. The ratio of neutrophils to total cells had predominantly increased in BAL fluid as well.

We measured the values of total protein , amylase , lactate dehydrogenase (LDH) and its isoenzymes , creatine kinase (CK) , gamma glutamyltransferase (GGT) , carcinoembryonic antigen (CEA), sialic acid, glucose and urea . All of these values were examined in BAL fluids and serum . The values of total protein, amylase, LDH, CEA, sialic acid and urea in BAL fluid from the cancered lung were higher than the non-cancered lung, but they showed no significantly difference . The values were also higher than normal values reported in the literature . The percentage of abnormal cases were 94.4 , 77.3 , 100 , 89 , 55.6 and 94.4 respectively. The biochemical values in serum revealed that amylase , LDH, CEA, sialic acid and urea were higher than normal values in the literature and the percentage of abnormal cases were 11.1 , 61.1 , 94.4 , 72 and 5.6 respectively . We also separated LDH isoenzymes in BAL fluids and serum . The fractionation of BAL-LDH revealed an increase in LDH isoenzyme type 1 but serum-LDH revealed an increase in LDH isoenzyme type 2.

In conclusion , BAL from bilateral lungs cancered and clinically non-cancered lungs were studied and compared . There was no such study in the past. The finding showed some promising parameters which were much increased namely neutrophils , LDH , LDH isoenzymes type 1 , amylase and sialic acid. Further investigation of these parameters will gain much understanding in the alteration within alveolar level of lung cancer and may be of diagnostic aid.