

**PULMONARY MANIFESTATIONS IN MELIOIDOSIS PATIENTS**

**JAN FRANK GERSTENMAIER**

**A THEMATIC PAPER SUBMITTED IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF CLINICAL TROPICAL MEDICINE  
FACULTY OF GRADUATE STUDIES  
MAHIDOL UNIVERSITY  
2006**

**COPYRIGHT OF MAHIDOL UNIVERSITY**

**PULMONARY MANIFESTATIONS IN MELIOIDOSIS PATIENTS**

JAN FRANK GERSTENMAIER 4838790 TMCT/M

M.C.T.M.

**THEMATIC PAPER ADVISORS: WIRONGRONG CHIERAKUL MD, WIPADA CHAOWAGUL MD, UDOMSAK SILACHAMROON MD, WATCHARAPONG PIYAPHANEE MD, YUPAPORN WATTANAGOON MBBS, VARUNEE DESAKORN MSC MPH****ABSTRACT**

A descriptive cross-sectional retrospective study was conducted at Sappasithprasong Hospital in Ubon Ratchathani Province, among patients with culture-proven melioidosis during the period 1 January 2003-31 December 2004. The purpose was to determine the prevalence of pulmonary involvement; to describe clinical and radiological features, laboratory and clinical outcomes; and to compare various parameters between cases of pulmonary and non-pulmonary melioidosis.

During the study period, 493 patients had culture-proven melioidosis, and 473 qualified for analysis. The prevalence of pulmonary melioidosis was 56.2%. Two thirds of pulmonary patients were male, and just under 80% were rice farmers. Age group 45-59 years was affected most frequently. Diabetes was the most common risk factor, with no difference between lung and non-lung cases. The chief complaint was fever in almost 90% of cases, whereas in pulmonary cases, respiratory symptoms like cough, expectoration, and dyspnoea occurred in only 50-60%. Cases had a median duration of illness of one week prior to admission. At presentation, more than two thirds were in moderate or serious condition, with tachypnoea and tachycardia. Yet, one third of pulmonary cases had a normal chest examination. Haematology was consistent with bacterial infection. Biochemistry showed mildly deranged liver function, high BUN, high creatinine, and low total serum hydrogen carbonate. Chest x-rays were highly variable, similar to many other lung conditions, such as tuberculosis, but also blood-borne pneumonia due to other pathogens. The most common findings on chest x-rays were zonal opacities, followed by widespread opacities, a picture typical of haematogenous pneumonia. In acute melioidosis, zonal opacities occurred more often on the right side and in the upper zones. In almost 6% of cases, radiological changes lagged behind the clinical condition.

Multiple organ involvement occurred frequently in melioidosis, but the lungs were the site most commonly affected. The results suggested that pulmonary melioidosis carries a poor prognosis, has higher than 50% mortality, and a longer fever clearance time and longer duration of hospitalisation than non-pulmonary cases. Pulmonary melioidosis was more severe than the non-pulmonary forms for all types of distribution. Radiological features were non-specific and diagnosis should not depend on these. If a risk stratification system were in place, cases that turn out to be pulmonary could be identified as candidates who would benefit from early intensive interventions aimed at reducing mortality.

**KEY WORDS: MELIOIDOSIS / PULMONARY / X-RAY / DISEASE SEVERITY**  
68 P.