

## A SURVEY OF CHEST RADIOGRAPHS OF MIGRANT WORKERS IN MALAYSIA

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**ABSTRACT:** A survey was done to assess the chest radiographs of a selected group of immigrants. The objective is to ascertain the presence of abnormalities especially the presence of tuberculosis. Five hundred and eleven (511) chest radiographs (PA view) were evaluated. Majority of the chest radiographs were normal, except for 2 cases of hilar lymphadenopathy, 4 cases of scoliosis and cervical rib, an old case of fracture of the clavicle and a case of cardiomegaly. Only 2 cases of TB were detected. (*JUMMEC 2002; 1:44-45*)

### Introduction

Immigrant medical screening was implemented in the 1990s. This is partly attributed to the increased awareness of newly emerging or re-emerging infectious diseases. Better health care with more effective, integrated immunization programs plus improved surveillance and treatment have increased the consequences, and impact of migration associated infections.

Chest radiography is still the mainstay medical screening of migrants especially in the detection for the presence of both active and previous tuberculosis. With the rapid economic development in Malaysia, the number of migrant workers required for service, manufacturing, plantation and domestic industries has skyrocketed. The appropriate measures necessary to ensure effective control of infectious diseases necessitate that there is adequate information on the health status of migrant workers in Malaysia.

### Patients and Methods

A total of 809 migrant workers were evaluated as part of a survey on migrant workers in Malaysia. Of these only 511 workers, had their chest radiographs done. These were standard posterior anterior radiographs using a normal kV technique. These radiographs were done in the University of Malaya Medical Center and a government hospital. Only radiographs of diagnostic quality were used for evaluation by two independent radiologists. The radiographs were assessed for the presence of any parenchymal lesions (i.e. active or inactive tuberculosis, other lung infections, pleural thickening and other lesions), mediastinal pathology (lymphadenopathy), bony lesions of the ribs or spine (scoliosis, evidence of TB, accessory ribs etc), and diseases of the heart and pericardial disease.

### Results

All the radiographs evaluated were of diagnostic quality. The age range was between 18 to 69 years. Of the 511 migrant workers radiographed, 34 were Indonesians, 254 Bangladeshis, 92 Thais, 77 Burmese and 54 Pakistanis. There were 444 males and only 67 females. They were all legal immigrants with work permits.

The chest radiographs were normal in the vast majority. Only 2 foreign workers had hilar lymphadenopathy (one Thai and one Bangladesh), four workers had abnormalities of the spine (scoliosis) and ribs (cervical ribs). A single case of an old fracture of the clavicle was seen. There was one case (Thai) of cardiomegaly and heart failure.

There were however two cases of TB detected and 11 (six Thais, two Bangladeshis, two Indonesians and one Burmese) with evidence of granulomas in the lungs. The two cases of active TB were seen in the Burmese workers. One of the cases of old TB showed gross disease with evidence of shift of mediastinum to the right and collapse of the right lower lung lobe. There was one case of right middle lobe infection which was most probably chronic in nature.

### Discussion

The current immigration medical screening has been recommended and implemented for two reasons. (1) To identify, manage and prevent the spread of communicable diseases of public health importance e.g. tuberculosis, sexually transmitted diseases, viral hepatitis and

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even some parasitic infestations. Thus screening for infectious diseases is the most common form of national immigration medical screening. (2) To identify those conditions which may be costly or complicated to treat (eg. cancer).

The timely diagnosis and treatment of tuberculosis is an important health issue in both the developing and developed countries. TB is the cause of high morbidity and mortality. It is treatable and preventable (1). While TB was showing a decreasing trend, there has been resurgence world wide of tuberculosis. This has been attributed to the increasing numbers of migrant workers as well as the rise of HIV (2,3). There are only a few studies on the incidence of TB among migrant workers per se although numerous studies have been done among immigrants.

Recently published report by the CDC Atlanta (4), showed that even though the current screening for tuberculosis is effective for identifying and managing active cases of disease in immigrants, there was little benefit in screening applicants from low incidence countries.

Compared to other studies of immigrants where incidence of active TB is reported to be between 1.2% (5) to 1.5% (6), there were only 2 cases of active TB seen in the group radiographed. This is probably attributed to re-activation of previously dormant disease, since all the workers sampled were legal workers and would therefore have had a radiograph done in their country of origin and any evidence of active disease would have excluded them. However, we must bear in mind that this survey excluded those who were already being treated for active TB. It has been reported that migrant workers comprised 10% of all treated cases of TB in Malaysia. The incidence of TB among migrant workers in other countries e.g Japan or Taiwan has been low (7). In Britain, it has been found that even though immigrants make up 5% of the population, they account for more than 30% of the cases (8). It has been reported that the average annual incidence of TB re-activation amongst immigrants is around 0.33% (6).

A report by Fomema (9), showed that 7% of the 16,000 migrant workers who were found to be unfit showed

evidence of either active or old TB i.e approximately 420 workers. However, the vast majority (67%) of these 16,000 unfit migrant workers showed evidence of being Hepatitis B positive. It must be borne in mind that even though there are approximately 500,000 legally registered migrant workers, there are an estimated 1.5 million illegal migrant workers. The presence of infectious diseases in this group has not been ascertained.

The limitations of screening migrant workers in their home country include unethical practices of false reporting and getting someone else to substitute for the worker during radiography. This has been overcome by monitoring the clinics, which are allowed to do medical examinations in their home countries. The apparent failure to exclude active disease prior to arrival may be partly overcome by regular screening of migrant workers (6).

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