

losis in nurses and physicians were 80.7 and 86.0 per 100,000 in the Taipei region.

Conclusion: Tuberculosis occurs in HCW, which is obviously younger, compared to the general population. This might be due to the juniority of first-line HCW. The male-to-female ratio for tuberculosis cases in the general Taiwan population is 2:1, which differs significantly from the corresponding gender distribution for HCW in this study. This probably is due to the fact that most of the HCW providing first-line primary care in Taiwan are female nurses. The incidence of tuberculosis between HCW is higher compared to the general population. Prevention of tuberculosis infection in these professionals remains an important issue in Taiwan.

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Clinical Presentation and Mortality of *Mycobacterium avium* Complex Disease in a Public Sector Hospital, South Africa

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Background: *Mycobacterium avium* complex (MAC) remains an important opportunistic infection in HIV-infected individuals despite the introduction highly active antiretroviral therapy (HAART). There are also concerns that high mortality from MAC occurs as part of an immune reconstitution inflammatory syndrome (IRIS) after initiation of HAART. Additionally, in patients receiving HAART, there is concern that the presentation of MAC may be atypical, leading to delayed or missed diagnoses.

Methods: A retrospective record review was conducted of laboratory-confirmed MAC cases at a public-sector hospital in Johannesburg, South Africa between January 2005 and August 2007 to determine presenting clinical features and HIV status at MAC diagnosis, and estimate mortality after MAC diagnosis.

Results: A total of 74 laboratory-confirmed cases of MAC were identified. All except one patient out of the 51 that had HIV test results were HIV positive and 50% of these were receiving HAART at MAC diagnosis. The median CD4 count at diagnosis of MAC was 34 cells/mm³ (IQR 12–73 cells/mm³). Only 75% of the 74 MAC cases had records of receiving treatment for MAC while 44% were receiving TB treatment when MAC was diagnosed. There were no differences in presenting symptoms between those who were HAART-naïve at time of MAC diagnosis and those who were receiving HAART. There were 12 confirmed deaths out of the 29 individuals with outcomes recorded at the end of the study period (41%) and the median time to death after diagnosis of MAC was 147 days (IQR 64–275 days). However there was no decrease in survival time for patients with MAC as part of an IRIS compared to the non-IRIS MAC cases.

Conclusions: Clinical presentation of MAC is not confused by treatment with HAART. Mortality from MAC remains high,

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Description of the Diversity and Historic Origin of *Mycobacterium tuberculosis* Strains Collected from the Free State, South Africa

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Background: South Africa is extremely diverse in populations and topography but molecular epidemiological data describing the diversity of *Mycobacterium tuberculosis* (MTB) mainly focus on a high-incidence area in the Western Cape, KwaZulu-Natal and sporadic studies elsewhere where the well documented Beijing lineage is the most prominent strain as in many countries worldwide. Each geographic area additionally to the well documented lineages typically reports strains unique to the population. Free State (FS) studies recently reported restriction fragment length polymorphism (RFLP) typing of strains suggesting a limited numbers of the Beijing family in this province. We implemented spoligotyping to determine the historic origin of the strains reported on from the Free State.

Methods: A total of 69 FS strains were analysed using a commercially available spoligotyping kit for MTB. Data was entered into an Excel spreadsheet in a binary format and compared to other strains in the world captured in the spolDB3.0 database. Results were compared with RFLP dendrogram patterns derived using the GelComparII unweighted pair-group analyses with UPGMA arithmetic averages.

Results: No spoligotypes identical to strains existing in the spolDB3 database were found. Predominant families with high similarity (76%–99.9%) to spolDB3 strains include: the Modern type T1-T4 (30%) with T1 the most prominent group 17%. LAM 15%, X strains 13%, EAI strains 10%, and S type 7%. Only 3 strains represented the Beijing family. One *M. bovis* and one *M. africanum* strain were found. Agreement with RFLP dendrogram data was low probable since the spolDB3 database probabilities were not taken into account. Strains with low copy numbers found in the Van Dijk study belonged to the X spolDB3 group as suggested in publications. Findings agree with the hypothesis of Van Dijk et al that the Beijing family does not occur in grave numbers in the FS.

Conclusion: The FS definitely has a different population of tuberculosis strains and is worth investigating further.

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