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1834 AYOADE, F.; OSHO, A.; FAYEMI, S. O.; OYEJIDE, N. E.; IBIKUNLE, A. A. **Unusually high prevalence of asymptomatic bacteriuria among male university students on Redemption Camp, Ogun State, Nigeria.** *African Journal of Clinical and Experimental Microbiology* (2013) **14** (1) 19-22 Kwara State, Nigeria; *African Journal of Clinical and Experimental Microbiology* [En. 15 ref.] Department of Biological Sciences, College of Natural Sciences, Redeemer's University, Redemption Camp Post Office, P.O. Box 812, KM 46, Lagos-Ibadan Expressway, Redemption Camp, Ogun State, Nigeria. Email: fayoad22@gmail.com

Differences are known to occur in prevalence rates in urinary tract infections (UTI) between men and women due to the difference between the urinary tracts of the sexes. Moreover, different organisms are known to infect and cause bacteriuria in men. When urine samples from 55 apparently healthy male students of Redeemer's University were examined, nine bacteria species including *Micrococcus luteus*, *Viellonella parvula*, *Micrococcus varians*, *Streptococcus downei*, *Streptococcus pneumonia*, *Bacillus subtilis*, *Streptococcus pyrogenes*, *Staphylococcus saprophyticus*, and *Enterococcus aquimarinus* were isolated from the samples. The two most prevalent organisms reported in this study were *Micrococcus luteus* (40%) and *Micrococcus varians* (27.3%). The implication of the high prevalence rates (54.5%) of asymptomatic

bacteriuria obtained in this population is discussed.

1835 NTAMBWE, M.; MARYET, M. **Tuberculosis and lactic acidosis as causes of death in adult patients from a regional hospital in Johannesburg.** *African Journal of Primary Health Care and Family Medicine* (2012) **4** (1) art 266 Cape Town, South Africa; African Online Scientific Information Systems/AOSIS (Pty) Ltd [En, fr, 30 ref.] Department of Epidemiology, University of Limpopo (Medunsa Campus), Limpopo, South Africa. Email: gustavmalangu@gmail.com

BACKGROUND: Tuberculosis and adverse effects have been shown to affect both the quality of life and the survival of patients on antiretroviral treatment. This study sought to investigate the causes of death in a sample of adult HIV-irifected patients on antiretroviral treatment at Thembisa Hospital, Johannesburg, South Africa. METHODS: A retrospective study was conducted by examining the charts of 498 adult patients treated from January 2004 to December 2006 at the antiretroviral clinic of a regional hospital in Johannesburg. A data collection form was used to collate both sociodemographic and clinical data. RESULTS: The majority of the patients were female (71.7%) with a mean age of 37.7±11.6 years, and in the age group of 18-77 years. The greater number of the patients was South African citizens, with only 2.2% citizens of other Southern African countries. At baseline, 29.9% had been on anti-tuberculosis treatment. Most of the patients

had been prescribed the regimen comprising stavudine, lamivudine, and nevirapine or efavirenz; two of them (0.4%) were on the second line regimen made of zidovudine, didanosine, and lopinavir-ritonavir. At least one side effect was documented in 82.1% of patients; the ten most documented side effects were skin rashes (62.9%), peripheral neuropathy (48.4%), headaches (38.2%), chest pain (21.9%), coughing (21.7%), anaemia (21.57%), diarrhoea (19.3%), vomiting (16.7%), dizziness (15.3%), and lactic acidosis (11.2%). A mortality rate of 3.6% was recorded during the 2-year study period. Although the cause of death was undetermined in 11.1% of patients, 50.0% and 38.9% of deaths respectively were a consequence of tuberculosis and lactic acidosis. **CONCLUSIONS:** In addition to tuberculosis, side effects in particular, lactic acidosis was the other main cause of death in patients treated at the study site. These findings suggest that patients on regimens containing drugs that cause lactic acidosis should be closely monitored when the first complaints suggesting lactic acidosis are reported or noticed.

1836 JE DONGMO; KANG CHEOLIN; JOUNG JIYOUNG; JEONG HYEMIN; CHO YOONYOUNG; HUH KVUNGMIN; PECK KYONGRAN **Vertebral osteomyelitis caused by *Mycobacterium abscessus* in an immunocompetent patient.** *Infection and Chemotherapy* (2012) **44** (6) 530-534 Seoul, Korea Republic; Korean Society of Infectious Diseases and Korean Society of Chemotherapy [En, 20 ref.] Division of Infectious Disease, Department of Internal Medicine, Samsung Medical Center, Sungkyunkwan University, School of Medicine, Irwon-ro 81, Gangnam-gu, Seoul 135710, Korea Republic. Email: collacin@hotmail.com

Vertebral osteomyelitis caused by non-tuberculous mycobacteria (NTM) is rarely reported, especially in an immunocompetent host. NTM

are usually not susceptible in vitro to anti-tuberculous drugs, and appropriate antimicrobial therapy for treatment of NTM infection is based on susceptibility results, which vary between different NTM species; therefore, treatment of vertebral osteomyelitis caused by NTM is challenging. We report on the first case of vertebral osteomyelitis caused by *M. abscessus* in an otherwise healthy individual, confirmed by cultures of bone tissue obtained during surgery. Clinical cure was achieved with a combination of antimicrobial therapy and surgery. We also review previous reports of vertebral osteomyelitis caused by NTM.

1837 RAJESH KANNANGAI; JAIPRASATH SACHITHANANDHAM; ANITA MAHADEVAN; ABRAHAM, AM.; GOPALAN SRIDHARAN; ANITA DESAI; VASANTHAPURAM RAVI; SHANKAR, S. K. **Association of neurotropic viruses in HIV-infected individuals who died of secondary complications of tuberculosis, cryptococcosis, or toxoplasmosis in south India.** *Journal of Clinical Microbiology* (2013) **51** (3) 1022-1025 Washington, USA; American Society for Microbiology (ASM) [En, 24 ref.] Department of Clinical Virology, Christian Medical College, Vellore, India. Email: kannangair@cmcvellore.ac.in

The frequencies of 10 opportunistic DNA viruses were determined by multiplex real-time PCR in paired cerebrospinal fluid (CSF) and brain tissue of HIV-infected individuals. In the CSF, viruses were detectable in 45/55 cases: JC virus (JCV) in 62%, Epstein-Barr virus (EBV) in 44%, cytomegalovirus (CMV) in 25%, varicella-zoster virus (VZV) in 3.6%, herpes simplex virus 1 (HSV-1) in 1.8%, and human herpesvirus 6 (HHV-6) in 1.8% of cases. A single virus was detectable in 20 cases, 19 cases had coinfection with two viruses, and 6 cases were positive for three viruses. JCV was detectable in the CSF of 62% of cases and in 42% of brain tissues, with higher loads in progressive multifocal leukoencephalopathy (PML) ($P < 0.05$).

1838 SERENO, A. B.; SOARES, E. C. C.; LAPA E. SILVA, J. R.; NÁPOLES, A. M.; BIALOUS, S. A.; COSTA E SILVA, V. L. DA; NOVOTNY, T. E. **Feasibility study of a smoking cessation intervention in Directly Observed Therapy Short-Course tuberculosis treatment clinics in Rio de Janeiro, Brazil.** *Revista Panamericana de Salud Pública / Pan American Journal of Public Health* (2012) **32** (6) 451-456 Washington, USA; Pan American Health Organization [En, es, 25 ref.] Universidade Federal de Rio de Janeiro, Hospital Universitario Clementino Fraga Filho, Rio de Janeiro, Brazil. Email: tnovotny@mail.sdsu.edu

A pilot feasibility study was conducted to determine whether Directly Observed Therapy Short-Course (DOTS) workers could be trained to deliver smoking cessation counseling and referral interventions, identify potential barriers to a full-scale randomized controlled trial on the effectiveness of integrated smoking cessation in DOTS, and determine whether tuberculosis (TB) patients who smoke would agree to participate in such a program. DOTS providers in two Rio de Janeiro primary health clinics received 1-day training in cessation counseling. They completed pre- and post-training surveys and participated in post-program focus groups. Patients were surveyed 3 months after program completion, and semiquantitative urine assays for cotinine were used to confirm cessation. Providers' mean self-efficacy scores for cessation counseling improved significantly (advise to quit, assess readiness, assist with quitting, and, arrange follow-up) from scores (on a scale of 1-5) of 2-3 pre-training to 3-4 post-training ($P < 0.05$), with only ability to change motivation not significant. Providers' knowledge about cessation (withdrawal, nicotine replacement therapy, precontemplation) was low before training and did not improve after training ($P > 0.1$ for all comparisons). Implementation of a smoking cessation inter-

vention by DOTS providers in TB clinics in Brazil is feasible. Randomized controlled trials to test intervention effectiveness in reducing TB-related morbidity must include cross-training for tobacco control and TB providers. Smoking cessation in DOTS programs may be important in reducing the global burden of TB, improving the health of TB patients, and reducing TB transmission in households.

1839 ASIIMWE, B. B.; BAGYENZI, G. B.; SSENGOOBA, W.; MUMBOWA, F.; MBOOWA, G.; WAJJA, A.; MAYANJA-KIIZA, H.; MUSOKE, P. M.; WOBUDEYA, E.; KALLENIOUS, G.; JOLOBA, M. L. **Species and genotypic diversity of non-tuberculous mycobacteria isolated from children investigated for pulmonary tuberculosis in rural Uganda.** *BMC Infectious Diseases* (2013) **13** (88) (18 February 2013) London, UK; BioMed Central Ltd [En, 19 ref.] Department of Medical Microbiology, Makerere University College of Health Sciences, P.O. Box 7072, Kampala, Uganda. Email: basiimwe@chs.mak.ac.ug, bagodwins@yahoo.com, willyssengooba@gmail.com, francmumbowa@yahoo.co.uk, gmboowa@yahoo.com, awajja@idi.co.ug, hmk@chs.mak.ac.ug, pmusoke@mujhu.org, ewobudeya@mujhu.org, gunilla.kallenius@ki.se, moses.joloba@case.edu

BACKGROUND: Smear microscopy, a mainstay of tuberculosis (TB) diagnosis in developing countries, cannot differentiate *M. tuberculosis* complex from NTM infection, while pulmonary TB shares clinical signs with NTM disease, causing clinical and diagnostic dilemmas. This study used molecular assays to identify species and assess genotypic diversity of non-tuberculous mycobacteria (NTM) isolates from children investigated for pulmonary tuberculosis at a demographic surveillance site in rural eastern Uganda. METHODS: Children were investigated for pulmonary tuberculosis as part of a TB vaccine

surveillance program (2009-2011). Two cohorts of 2500 BCG vaccinated infants and 7000 adolescents (12-18 years) were recruited and followed up for one to two years to determine incidence of tuberculosis. Induced sputum and gastric aspirates were processed by the standard N-acetyl Lcystinc (NALC)-NaOH method. Sediments were cultured in the automated MGIT (Becton Dickson) liquid culture system and incubated at 37°C for at least six weeks. Capilia TB assay was used to classify mycobacteria into MTC and NTM. The GenoType CM/AS assays were performed to identify species while Enterobacterial Repetitive Intergenic Consensus (ERIC) PCR genotyping was used to assess genetic diversity of the strains within each species. RESULTS: Among 2859 infants and 2988 adolescents screened, the numbers of TB suspects were 710 and 1490 infants and adolescents respectively. The prevalence of NTM in infant suspects was 3.7% (26/710) (95% CI 2.5-5.2) while that in adolescent suspects was 4.6% (69/1490) (95% CI 3.6-5.8). On culture, 127 isolates were obtained, 103 of which were confirmed as mycobacteria comprising of 95 NTM and eight *M. tuberculosis* complex. The Genotype CM/AS assay identified 63 of the 95 NTM isolates while 32 remained un-identified. The identified NTM species were *M. fortuitum* (40 isolates, 63.5%), *M. szulgai* (9 isolates, 14.3%), *M. gordonae* (6 isolates, 9.5%), *M. intracellulare* (3 isolates, 4.7%), *M. scrofulaceum* (2 isolates, 3.2%), *M. lentiflavum* (2 isolates, 3.2%), and *M. peregrinum* (1 isolate, 1.6%). Genotyping did not reveal any clustering in *M. intracellulare*, *M. gordonae* and *M. szulgai* species. *M. fortuitum* on the other hand, had two clusters, one with three isolates or *M. fortuitum* 1 and the other with two isolates of *M. fortuitum* 2 subspecies. The remaining 35 of the 40 isolates of *M. fortuitum* had unique Fingerprint patterns. CONCLUSION: *M. fortuitum* is the most common cause of infection by NTM

among Infants and adolescents in rural Uganda. Then; is a varied number of species and genotypes, with minimal clustering within species, suggesting ubiquitous sources or infection to individuals in this community.

1840 WICKERSHAM, J. A.; MARCUS, R.; KAMARULZAMAN, A.; ZAHARI, M. M.; ALTICE, F. L. **Implementing methadone maintenance treatment in prisons in Malaysia.** *Bulletin of the World Health Organization* (2013) **91** (2) 124-129 Geneva, Switzerland; World Health Organization [En, ar, ch, fr, ru, es, 17 ref., *Special theme: Opioid substitution therapy.*] Yale University School of Medicine, Department of Medicine, Infectious Diseases Section, AIDS Program, 135 College Street (Suite 323), New Haven, CT 06510-2283, USA Email: fredcrick.altice@yale.edu

PROBLEM: In Malaysia, human, immunodeficiency virus (HIV) infection is highly concentrated among people who inject opioids. For this reason, the country undertook a three-phase roll-out of a methadone maintenance treatment (MMT) programme. In Phase 3, described in this paper, MMT was implemented within prisons and retention in care was assessed. APPROACH: After developing standard operating procedures and agreement between its Prisons Department and Ministry of Health, Malaysia established pilot MMT programmes in two prisons in the states of Kelantan (2008) and Selangor (2009) - those with the highest proportions of HIV infected prisoners. Community-based MMT programmes were also established in Malaysia to integrate treatment activities after prisoners' release. LOCAL SETTING: Having failed to reduce the incidence of HIV infection, in 2005 Malaysia embarked on a harm reduction strategy. RELEVANT CHANGES: Standard operating procedures were modified to: (i) escalate the dose of methadone more slowly; (ii) provide ongoing education and training for medical and correctional staff and inmates;

(iii) increase the duration of methadone treatment before releasing prisoners; (iv) reinforce linkages with community MMT programmes after prisoners' release; (v) screen for and treat tuberculosis; (vi) escalate the dose of methadone during treatment for HIV infection and tuberculosis; and (vii) optimize the daily oral dose of methadone (>80 mg) before releasing prisoners. LESSONS LEARNED: Prison-based MMT programmes can be effectively implemented but require adequate dosing and measures are needed to improve communication between prison and police authorities, prevent police harassment of MMT clients after their release, and improve systems for tracking release dates.

1841 WANG ZHIBIN; LI PENG [Duplicate reporting of tuberculosis through internet-based reporting system in Puyang, Henan, 2005-2011.] *Disease Surveillance* (1013) **28** (1) 65-67 Beijing, China; Editorial Board of Disease Surveillance [Ch, en, 3 ref.] Puyang Center for Disease Control and Prevention, Puyang 457000, Henan, China. Email: todaycdc@126.com

OBJECTIVE: To investigate the duplicate reporting of tuberculosis (TB) in Puyang, Henan province and provide evidence to improve the reporting quality. METHODS: The reporting cards of TB in Puyang from 2005 to 2011 were obtained from national disease reporting information system and were analyzed with Excel 2003 and SPSS 17.0. RESULTS: From 2005 to 2011, Totally 14 357 TB cases were reported in Puyang, in which 1(1)0 were double reported, accounting for 11.04% of the total. The duplicate reporting of TB was in decline. The duplicate reporting card rate was highest in 2005 (68.40%) and lowest in 2011 (1.28%). CONCLUSION : Careful checking and deleting duplicate cards is the key point to strengthen the management of TB reporting in the future.

1842 MARCONI, C.; DONDEERS, G. G.; PARADA, C. M. G. L.; GIRALDO, P. C.; SILVA, M. G. DA **Do *Atopobium vaginae*, *Megasphaera* sp. and *Leptotrichia* sp. change the local innate immune response and sialidase activity in bacterial vaginosis?** *Sexually Transmitted Infections* (2013) **89** (2) 167-173 London, UK; BMJ Publishing Group [En, 38 ref.] Department of Pathology, Botucatu Medical School, UNESP-Univ Estadual Paulista, Botucatu, Sao Paulo 18618-970, Brazil. Email: mgsilva@fmb.unesp.br

OBJECTIVES : To investigate if the participation of *Atopobium vaginae*, *Megasphaera* sp. and *Leptotrichia* sp. in the bacterial community of bacterial vaginosis (BV) is associated with distinct patterns of this conditions. METHODS: In this cross-sectional controlled study, 105 women with BV and 205 women with normal flora were included. Vaginal rinsing samples were obtained for measuring the levels of pro-inflammatory cytokines and bacterial sialidases. Real-time PCR was used to quantify the BV-associated bacteria and to estimate the total bacterial load using the 16S rRNA. Principal component analysis (PCA) using the measured parameters was performed to compare the BV samples with lower and higher loads of the species of interest. RESULTS: Higher bacterial load ($p < 0.001$), levels of interleukin 1- ($p < 0.001$) and sialidase activity ($p < 0.001$) were associated with BV. Women with BV and higher relative loads of *A. vaginae*, *Megasphaera* sp. and *Leptotrichia* sp. presented increased sialidase activity, but unchanged cytokine levels. PCA analysis did not indicate a different pattern of BV according to the loads of *A. vaginae*, *Megasphaera* sp. and *Leptotrichia* sp. CONCLUSIONS: Greater participation of *A. vaginae*, *Megasphaera* sp. and *Leptotrichia* sp. in vaginal bacterial community did not indicate a less severe form of BV; moreover, it was associated with increased sialidase activity.

1843 ABDOLMALEKI, E. Y.; BABOLI, M. T.; SAMAKOOSH, M. A.; SHIRZAD, M.; BABA-MAHMOODI, F. **[Hyponatremia and dependent factors in admitted patients with tuberculosis at Razi teaching hospital, north of Iran 2006-2011.]**

Journal of Mazandaran University of Medical Sciences (2013) **22** (97) Pe12 Pe16, En 11 Sari, Iran; Mazandaran University of Medical Sciences [Pe, en, 11 ref.] Department of Internal Medicine, Faculty of Medicine, Mazandaran University of Medical Sciences, Sari, Iran.

BACKGROUND AND PURPOSE: Hyponatremia is the most common electrolyte disorder in hospitalized patients and different report exists about its prevalence. This study aimed at determining the frequency of hyponatremia and its associated factors in hospitalized tuberculosis (TB) patients in Razi hospital, Iran. **MATERIALS AND METHODS:** This cross-sectional study was done using the existing data and the study

population included all TB patients admitted in Razi Hospital during 2006 to 2011. TB was diagnosed based on clinical symptoms, positive sputum culture, positive radiographic finding and anti TB treatment. Variables included level of Na, age, sex, and drug regimen (standard/second line). Hyponatremia were sodium levels less than 135 in two consecutive tests. The data was analyzed by SPSS and Chi-square test. **RESULTS:** The cases were 200 TB patients including 115 (57.5%) male. The mean age of patients was 51.2 ± 20.8 years. Hyponatremia was seen in 36 (18%) patients (CI95%: 12.6%-23.4%). Distribution of mortality was not significantly different in patients with and without hyponatremia ($P > 0.05$). No significant difference was seen in frequency of hyponatremia according to the type of tuberculosis. **CONCLUSION:** Hyponatremia was considerably higher in patients with TB which should receive more attention for proper management and follow up.