806. 2013–2015 Nationwide Tuberculosis Contact Investigation in Childcare Centers and Schools in Korea

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Background. The Republic of Korea has the highest incidence rate of tuberculosis (TB) among members of the OECD, reported as 78.8/100,000 population in 2016. In response, a state-run intensive contact investigation for TB is being conducted. More effective TB control requires an epidemiologic emphasis on the diagnosis and treatment of latent TB infections in children and adolescents, compared with other age groups. Here we present an analysis of data from the childcare center and school contact investigation performed by the Korea Centers for Disease Control and Prevention (CDC) in 2013–2015.

Methods. Data collected from index patients included age, sex, occupation, disease status, results of AFB smear/culture, and chest x-ray. Data collected from contacts included age, sex, results of serial tuberculin skin test (TST), and chest x-ray. Congregate settings included childcare centers, kindergartens, elementary and secondary schools, and age groups were stratified as follows: 0–4 years, 5–12 years, and 13–18 years. TSTs were considered positive if induration ≥10 mm on the first test (TST1) or demonstrated an increase ≥6 mm over the induration of TST1 on repeat testing after 8 weeks (TST2).

Results. Of the 197,801 subjects with data collected, 173,998 were eligible and included in our analysis. TST1 results were available for 159,346 (91.6%) and when results were positive, induration was 10–14 mm in 7.6% and ≥15 mm in 1.5% TST2 results were available for 119,797, and conversion rate was 9.0%. Altogether considering TST1 and TST2, 17.3% contacts had latent TB infections. Positive rates of TST significantly decreased with age: 20.3% in 0–4 years, 18.8% in 5–12 years, and 17.1% in 13–18 years.

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scores. Thirty (39%) women with antepartum depression had resolution of symptoms postpartum and no women developed incident depression in the postpartum period. There was a trend toward increased rates of antenatal depression among HIV-infected vs. uninfected women (69% vs. 57%, P = 0.13). Both depressed and nondepressed pregnant women experienced low rates of intrauterine fetal demise, intrauterine hypotension, and preterm delivery. However, women with depression had 3-fold higher incidence of intrauterine growth restriction on prenatal ultrasound (4.4% vs. 1.5%).

Conclusion. We found that the majority of pregnant women in our population experience some form of depression during pregnancy. Most women with antepartum depression experienced improvement in their mood postpartum, which contrasts with patterns of perinatal depression in developed countries. We are planning qualitative studies to understand the social contributors for antepartum depression in India, and to identify potential solutions.

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809. Osteitis Caused by Bacillus Calmette-Guérin Tokyo 172 Strain in Immunocompetent Patients
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Background. Immunization with BCG vaccine has been associated with local and systemic complications. Osteitis secondary to Mycobacterium bovis-BCG is a rare complication with frequency of 0.1/100,000 doses. Below we report a series of a third level pediatric hospital in Mexico City.

Methods. This is a retrospective, descriptive, and observational study of subjects diagnosed with TB at the National Institute of Pediatrics (INP) in Mexico City during the 2010–2018 period. Subjects under 18 years with skeletal TB and positive culture for M. bovis-BCG strain were included.

Results. From 2010 to 2018, 118 cases of TB were treated, from which 3 (2.5%) were osteitis secondary to M. bovis-BCG. Tokyo 172 strain, two male and one female. All three cases had BCG immunization at birth. The age at diagnosis was 1, 2, and 3 years, respectively. The most common symptoms were pain, malaise. None of injury were right proximal tubia, effphysia of left distal femur, and left iloepic emi- nence. Lytic lesions with periosteal reaction were reported in plain radiographs of all the cases. The TST and COMBE studies were negative. Diagnosis was confirmed by biopsy with identification of M. bovis-BCG. Tokyo 172 strain by Genotype. All strains were sensitive to rifampicin. The treatment given was INH, RIF, E, PZA, and Clarithromycin during 2 months of intensive phase followed by 7 months of maintenance phase with INH RIF. A surgical approach was performed with curettage and graft placement in two cases. Tetrazol nitro blue tests and immunoglobulin levels were normal. Outcome was favorable in all three cases.

Conclusion. In Mexico the BCG vaccine is part of the national immunization program and is applied to 99% of newborns. This work is the first report in Mexico of osteitis secondary to M. bovis-BCG strain Tokyo 172. We suggest considering the diagnosis in patients with osteitis under 5 years of age with a history of BCG vaccination.

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810. Diagnosis of BCG Aortitis by Plasma Metagenomic Sequencing
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Background. Plasma metagenomic sequencing can be used to rapidly diagnose BCG-associated endovascular infection.

Conclusion. Plasma metagenomic sequencing can be used to rapidly diagnose BCG-associated endovascular infection.

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811. A Randomized Controlled Trial of Prednisolone vs. Interleukin 17 Inhibitor Secukinumab in the Management of Type 1 Lepra Reaction in Leprosy Patients
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Background. Leprosy is a chronic granulomatous disease caused by Mycobacterium leprae. Type 1 lepra reactions (TR1) are delayed hypersensitivity (Type IV) reactions which if not treated promptly leads to disability affecting eyes, hands and feet. IL-17 A which is produced mainly by inflammatory T helper 17 cells is up regulated in patients of Lepra reaction. Conventionally oral corticosteroids steroids have been the mainstay in the management of Type 1 lepra reactions. This novel biologic drug is a targeted therapy which blocks the offending interleukin molecule without any serious adverse effects. We report the results of this randomized control study wherein an immuno-modulator biologic molecule has been safely used to treat an inflammatory reaction in a chronic infectious disease. Outcomes were measured using recurrence rate, a clinical severity score, quality of life, and adverse events.

Methods. Seventy-four patients with new TR1 were randomized to receive Secukinumab (a human IgG1 monoclonal antibody that binds to the protein interleukin (IL)-17A) or Prednisolone for 20 weeks. IL-17 A levels were correlated before and after the intervention.

Results. Recovery rates in skin signs was similar in both groups (92% vs. 87%). Improvements in nerve function both, new and old, sensory (67% vs. 48%) and motor (73% vs. 76%) loss were higher (but not significantly so) in the patients on Secukinumab. Recurrences rates of lepra reaction (25%) were high in both groups, and recurrences occurred significantly earlier (8 weeks) in patients on Secukinumab, who needed 10% more additional prednisolone. Serious major and minor adverse events rates were much lesser with Secukinumab as compared with Prednisolone alone. Both groups had a significant improvement in their quality of life after the study, measured by the Short form survey SF-36.

Conclusion. This is the first double-blind randomized control trial assessing Secukinumab, in the management of lepra reaction. It could be a safe alternative second-line drug for patients with leprosy reactions who are not improving with prednisolone or are experiencing adverse events related to prednisolone. IL-17 A levels could be an important diagnostic marker to diagnose and prognosticate cases of Type 1 Lepra reaction, which if not treated in time can lead to irreversible nerve damage.

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812. Case-Control Trial to Evaluate the Cytokine Response to the Use of Capsule Thalidomide in Erythema Nodosum Leprosum in Leprosy Patients
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Background. Leprosy is a chronic granulomatous disease caused by Mycobacterium leprae. Type II lepra reaction or Erythema Nodosum Leposum is a