Update on significant recent research papers

James Seddon

Childhood Tuberculosis Sub-Group
26th October 2016
PubMed search results for "child AND tuberculosis" with filters applied for publication date from 2015/10/24 to 2016/10/23.
My biases

- 883 studies identified on PubMed
- On review of title selected 71 that I thought looked interesting
- Review of abstracts brought down to 35
- Few basic science studies as rarely paediatric specific
- Reflects my own interests and biases
- Really hard to decide as so many awesome articles
- PLEASE forgive me if I have not included your paper!!!
A blood RNA signature for tuberculosis disease risk: a prospective cohort study


T-cell activation is an immune correlate of risk in BCG vaccinated infants

Helen A. Fletcher1,2, Margaret A. Snowden3, Bernard Landry3, Wasima Rida4, Iman Satti1, Stephanie A. Harris1, Magali Matsumiya1, Rachel Tanner1, Matthew K. O’Shea1, Veerabradan Dheenadhayalan3, Leah Bogardus3, Lisa Stockdale1,2, Leanne Marsay5, Agnieszka Chomka6, Rachel Harrington-Kandt1, Zita-Rose Manjaly-Thomas1, Vivek Naranbhai7, Elena Stylianou1, Fatoumatta Darboe8, Adam Penn-Nicholson9, Elisa Nemes8, Mark Hatherill8, Gregory Hussey8, Hassan Mahomed8, Michele Tameris8, J Bruce McClain3, Thomas G. Evans3, Willem A. Hanekom8, Thomas J. Scriba8 & Helen McShane1
The potential impact of BCG vaccine supply shortages on global paediatric tuberculosis mortality

Rebecca C. Harris*, Peter J. Dodd and Richard G. White

Delayed BCG immunization does not alter antibody responses to EPI vaccines in HIV-exposed and -unexposed South African infants

Anneke C. Hesseling*, Anna K. Blakney, Christine E. Jones, Monika M. Esser, Corena de Beer, Louise Kuhn, Mark F. Cotton, Heather B. Jaspan
Comparable CD4 and CD8 T cell responses and cytokine release after at-birth and delayed BCG immunisation in infants born in Australia

Nicole Ritz a,b,c,d,e, Dan Casalaz e, Susan Donath f, Marc Tebueegge a,b,c,g, Binita Dutta c, Tom G. Connell a,b,c, Roy Robins-Browne a,b,c,h, Warwick J. Britton l, Willem A. Hanekom j, Nigel Curtis a,b,h,c.

Evaluating the neonatal BCG vaccination programme in Ireland

Cara Usher 1, Roisin Adams 1, Susanne Schmitz 1,2, Jennifer Kieran 1,2, Darina O'Flanagan 4,5, Joan O'Donnell 4,5, Kevin Connolly 4,5, Brenda Corcoran 5,6, Karina Butler 5,7, Michael Barry 1,2 and Cathal Walsh 1,3
BCG vaccination at birth and early childhood hospitalisation: a randomised clinical multicentre trial

Lone Graff Stensballe, Signe Sørup, Peter Aaby, Christine Stabell Benn, Gorm Greisen, Dorthe Lisbeth Jeppesen, Nina Marie Birk, Jesper Kjærgaard, Thomas Nørrelykke Nissen, Gitte Thybo Pihl, Lisbeth Marianne Thøstesen, Poul-Erik Kofoed, Ole Pryds, Henrik Ravn

Vaccinations against smallpox and tuberculosis are associated with better long-term survival: a Danish case-cohort study 1971–2010

Andreas Rieckmann, Marie Villumsen, Signe Sørup, Line Klingen Haugaard, Henrik Ravn, Adam Roth, Jennifer Lyn Baker, Christine Stabell Benn and Peter Aaby
A Multicenter Study on the Utility and Safety of EBUS-TBNA and EUS-B-FNA in Children

Sahajal Dhooria, MD, DM, 1 Karan Madan, MD, DM, 2 Vallandramam Pattabhiraman, MD, 3
Inderpal Singh Sehgal, MD, DM, 1 Ravindra Mehta, MD, 4 Gella Vishwanath, MD, DM, 5
Arjun Srinivasan, MD, DM, 3 Mahadevan Sivaramakrishnan, MD, 3 Anant Mohan, MD, 2
Joseph L. Mathew, MD, 6 Sushil K. Kabra, MD, 7 Randeep Guleria, MD, DM, 2
Digambar Behera, MD, 1 and Ritesh Agarwal, MD, DM 1*

The Pediatric Infectious Disease Journal Publish Ahead of Print

DOI: 10.1097/INF.0000000000001342

Cost–Effectiveness of Diagnostic Algorithms for Tuberculosis in Children Less than 5 Years of Age

Amanda K. Debes 1, PhD, Robert H. Gilman 1, MD, Carolyne Onyango-Makumbi 2,
MBChB, MS, Andrea Ruff 1, MD, Richard Oberhelman 3, MD, and David W. Dowdy 4,
MD, PhD
Performance of interferon-γ release assays in the diagnosis of confirmed active tuberculosis in immunocompetent children: a new systematic review and meta-analysis

Patrizia Laurenti, Matteo Raponi*, Chiara de Waele, Marta Marino, Walter Ricciardi and Gianfranco Damiani

Performance of Xpert MTB/RIF and Alternative Specimen Collection Methods for the Diagnosis of Tuberculosis in HIV-Infected Children

Olivier Merzii,1,2 Walb Ung,1,5 Sophie Gooy,1 Laurence Beaud,1 Philippe Mouliat,3 Mathieu Tejilam,4 Nguyen Lan Nguyen Thi,1 Boubacar Nacro,6 Sokkaap Cheng,1 Sara Eymeg,6 Thu Hang Pham,7 Abdoul Salam Gondouga8 Arnaud Tzanotolo7, Sylvain Godemski9,10,11 Stephane Blanche,11 and Christophe Delacourt6, for the PAANTHER study group

Dilemma of managing asymptomatic children referred with ‘culture-confirmed’ drug-resistant tuberculosis

Marian Loveday,1 Babu Sunkari,2 Ben J Marais,3 Iqbal Master,2 James C M Brust4
The Effect of Deworming on Tests of Tuberculosis Infection in Children With Recent Tuberculosis Exposure

A Randomized Controlled Trial

Marieke M. Van der Zalm, MD, PhD,* Nelda van Soelen, MD, MPH, MBA,* Anna M. Mandalakas, MD, PhD;† Marc Jacobsen, PhD;‡ Anne K. Detjen, MD,§ Florian M. Marx, MD, MSc;¶ Harleen M. S. Grewal, MD, PhD,**†† Mark E. Cotton, MD, PhD,‡‡ Gerhard Walzl, MD, PhD,§§ and Anneke C. Hesseling, MD, PhD*
Implementation of isoniazid preventive therapy in children aged under 5 years exposed to tuberculosis in Benin

M. Adjobimey,* E. Masserey,† C. Adjouou,* G. Gbénagnon,‡ V. Schwoebel,§ S. Anagonou,*
J-P. Zellweger†

SAFETY AND ADHERENCE FOR 12 WEEKLY DOSES OF ISONIAZID AND RIFAPENTINE FOR PEDIATRIC TUBERCULOSIS INFECTION

Andrea T. Cruz, MD, MPH, and Jeffrey R. Starke, MD
Pharmacokinetics of Rifampin, Isoniazid, Pyrazinamide, and Ethambutol in Infants Dosed According to Revised WHO-Recommended Treatment Guidelines

A. Bekker,* H. S. Schaaf,* H. R. Draper,* L. van der Laan,* S. Murray,* L. Wiesner,* P. R. Donald,* H. M. McIlerson,* A. C. Hesseling*

Low Serum Concentrations of Rifampicin and Pyrazinamide Associated with Poor Treatment Outcomes in Children with Tuberculosis Related to HIV Status

Geetha Ramachandran, PhD,* A. K. Hemanth Kumar, PhD,* T. Kannan, MSc, MPhil,† P. K. Bhavani, MB BS,‡ S. Ramesh Kumar, MB BS,§ N. Poorana Gangadevi, MB BS, PGDPH,‖ V. V. Banurekha, MB BS,‖ V. Sudha, MSc, MPhil,* S. Venkatesh, MSW,* N. Ravichandran, MB BS, MD,§ S. Kalpana, MD,¶ G. Mathevan, MD,∥ G. N. Sanjeeva, MD,** Dipti Agarwal, MD,†† and Soumya Swaminathan, MB BS, MD‡

Isoniazid hair concentrations in children with tuberculosis: a proof of concept study

Six months therapy for tuberculous meningitis (Review)

Jullien S, Ryan H, Modi M, Bhatia R

Pouplin et al. BMC Infectious Diseases (2016) 16:144
DOI 10.1186/s12879-016-1470-x

Naïve-pooled pharmacokinetic analysis of pyrazinamide, isoniazid and rifampicin in plasma and cerebrospinal fluid of Vietnamese children with tuberculous meningitis

Thomas Pouplin1,2,4, Nguyen Duc Bang3,4, Pham Van To4, Pham Nguyen Phuong3, Nguyen Huy Dung4, Tran Ngoc Duong5, Maxine Caw2,3,5, Guy E. Thwaites2,3, Joel Tarning1,3 and Jeremy N. Day1,3
Pediatric Tuberculous Meningitis: Model-Based Approach to Determining Optimal Doses of the Anti-Tuberculosis Drugs Rifampin and Levofloxacin for Children

RM Savic¹, R Ruslami², JE Hibma¹, A Hesseling³, G Ramachandran⁴, AR Ganiem², S Swaminathan⁴, H McIlleron⁵, A Gupta⁶, K Thakur⁶, R van Crevel⁷, R Aarnoutse⁷ and KE Dooley⁶

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**Original Studies**

Linezolid is Associated with Improved Early Outcomes of Childhood Tuberculous Meningitis

Huimin Li, MD,* Jie Lu, PhD,*† Jirrong Liu, MD,* Yuhong Zhao, MD,* Xin Ni, MD,*† and Shuying Zhao, MD*
Loss to follow-up among adolescents with tuberculosis in Gaborone, Botswana

L. A. Enane,*†‡ E. D. Lowenthal,†‡§ T. Arscott-Mills,†‡ M. Mathare,‡ L. S. Smallcomb,* B. Kgwadira,† S. E. Coffin,*† A. P. Steenhoff*†‡

Schmidt et al. Trials (2016) 17:177

Trials

RESEARCH

Engaging adolescents in tuberculosis and clinical trial research through drama

Bey-Marrié Schmidt, Amber Abrams, and Michele Tameris*
Global burden of drug-resistant tuberculosis in children: a mathematical modelling study

Peter J Dodd, Chorafambos Sismanidis, James A Seddon

Mycobacterium tuberculosis bacteremia in adults and children: a systematic review and meta-analysis

P. B. Pavlinac,* E. M. Lokken,† J. L. Watson,*†‡§ B. A. Richardson,*† J. A. Crump,§
G. C. John-Stewart*†‡§

Smear positivity in paediatric and adult tuberculosis: systematic review and meta-analysis

Amber Kunkel1,2, Pia Abel zur Wiesch1,2,4, Ruvandhi R. Nathavitharan3, Floßan M. Marx1,6, Helen E. Jenkins6
and Ted Cohen1

Kunkel et al. BMC Infectious Diseases (2016) 16:282

BMC Infectious Diseases
Prevalence, incidence, and associated risk factors of tuberculosis in children with HIV living in the UK and Ireland (CHIPS): a cohort study

Anna Turkova, Elizabeth Chappell, Ali Judd, Ruth L. Goodall, Steven B Welch, Caroline Foster, Andrew Riordan, Delane Shingadia, Fiona Shackley, Katja Doerholt, Diana M Gibb, Intra J Collins, for the Collaborative HIV Paediatric Study (CHIPS) Steering Committee

Crook et al. BMC Medicine (2016) 14:50

World TB Day

RESEARCH ARTICLE

Tuberculosis incidence is high in HIV-infected African children but is reduced by co-trimoxazole and time on antiretroviral therapy

Angela M. Crook¹, Anna Turkova¹, Victor Musiime²,³, Mutsa Bwakura-Dangarembizi⁴, Sabrina Bakeera-Kitaka⁵, Patricia Nahinya-Ntege⁶, Margaret Thomason¹, Peter Muyenyi⁷, Philippa Musoke⁵, Adeodata Kekitiinwa⁵, Paula Munderi⁷, Kusum Nathoo⁷, Andrew J. Prendergast⁷, A. Sarah Walker¹, Diana M. Gibb¹
and And The ARROW Trial Team
Human Tuberculosis Caused by *Mycobacterium bovis* in the United States, 2006–2013

Colleen Scott,1,2 Joseph S. Cavanaugh,2 Robert Pratt,3 Benjamin J. Silk,2 Philip LoBue,3 and Patrick K. Moonan2

High Discordance Between Pre-US and Post-US Entry Tuberculosis Test Results Among Immigrant Children

Is it Time to Adopt Interferon Gamma Release Assay for Preentry Tuberculosis Screening?

Phil Lowenthal, MPH, Pennan M. Barry, MD, and Jennifer Flood, MD
Baseline Predictors of Treatment Outcomes in Children With Multidrug-Resistant Tuberculosis: A Retrospective Cohort Study

Silvia S. Chiang,1,2 Jeffrey R. Starke,1 Ann C. Miller,3 Andrea T. Cruz,1,2 Hernán Del Castillo,4 William José Valdivia,5 Gabriela Tunque,5 Fanny García,5 Carmen Contreras,5 Leonor Lecca,5 Valentina A. Alarcón,5 and Mercedes C. Becerra6,5

Compassionate use of new drugs in children and adolescents with multidrug-resistant and extensively drug-resistant tuberculosis: early experiences and challenges
Conclusions

• Lots of paediatric work being done
• Previously neglected areas finally getting some attention

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