Update on significant recent research papers

Childhood Tuberculosis Sub-Group
3 November 2015
Tuberculosis Publications Listed on Pubmed
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child* AND tuberc*
My biases

• 837 studies identified on PubMed
• On review of title I selected 28 that I thought were pretty interesting
  – Based on my own clinical and research interests
  – Slightly biased towards clinical/epi studies
  – Slightly biased towards drug resistance
• Broadly divided into five categories
Findings

• Policy statements
• Epidemiology
• Vaccines
• Diagnostics
• Treatment
• Prevention
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Towards early inclusion of children in tuberculosis drugs trials: a consensus statement


A Blueprint to Address Research Gaps in the Development of Biomarkers for Pediatric Tuberculosis

Mark Patrick Nicot,1,4 Devasena Gnanashanmugam,2,4 Renee Browning,2 Eleanor S. Click,3 Luis E. Cuevas,4 Anne Detjen,5 Steve M. Graham,5,6,7 Michael Levin,8 Mamodikoe Makhene,9 Payam Nahid,9 Carlos M. Perez-Velez,10 Klaus Reith,11 Rinn Song,12,13 Hans M. L. Spiegel,14 Carol Worrell,2 Heather J. Zar,15 and Gerhard Walti16

Clinical Case Definitions for Classification of Intrathoracic Tuberculosis in Children: An Update

Stephen M. Graham,1,2,3 Luis E. Cuevas,4 Patrick Jean-Philippe,5 Renee Browning,6 Martina Casenghi,7 Anne K. Detjen,2 Devasena Gnanashanmugam,6 Anneke C. Hesseling,8 Beate Kampmann,9,10 Anna Mandalakas,11 Ben J. Marais,12 Marco Schito,3,9 Hans M. L. Spiegel,3 Jeffrey R. Starke,11 Carol Worrell,11b and Heather J. Zar15
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Tuberculosis as a cause or comorbidity of childhood pneumonia in tuberculosis-endemic areas: a systematic review

Jacquie N Oliwa, Jamlick M Karumbi, Ben J Marais, Shabir A Madhi, Stephen M Graham

Epidemiology of drug-resistant tuberculosis among children and adolescents in South Africa, 2005–2010

B. K. Moore,* E. Anyalechi,* M. van der Walt,† S. Smith,* L. Erasmus,‡ J. Lancaster,† S. Morris,* N. Ndjeka,§ J. Ershova,* N. Ismail,¶ D. Burton,* H. Menzies*

Exposure to Second-Hand Smoke and the Risk of Tuberculosis in Children and Adults: A Systematic Review and Meta-Analysis of 18 Observational Studies

Jayadeep Patra¹,²*, Mehak Bhatia¹,², Wilson Suraweera¹, Shaun K. Morris³,⁴, Cyril Patra⁵, Prakash C. Gupta⁶, Prabhat Jha¹,²
Findings

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Safety and immunogenicity of candidate vaccine M72/AS01E in adolescents in a TB endemic setting

Adam Penn-Nicholson, Hennie Geldenhuys, Wivine Burny, Robbert van der Most, Cheryl L. Day, Erik Jongert, Philippe Moris, Mark Hatherill, Opoku Ofori-Anyinam, Willem Hanekom, the Vaccine Study Team,

A double-blind, randomised, placebo-controlled, dose-finding trial of the novel tuberculosis vaccine AERAS-402, an adenovirus-vectored fusion protein, in healthy, BCG-vaccinated infants

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Uniform Research Case Definition Criteria Differentiate Tuberculous and Bacterial Meningitis in Children

Regan S. Solomons,1,a Marie Wessels,1,a Douwe H. Visser,2 Peter R. Donald,1 Ben J. Marais,3 Johan F. Schoeman,1 and Anne M. van Furth2

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Xpert MTB/RIF assay for the diagnosis of pulmonary tuberculosis in children: a systematic review and meta-analysis

Anne K Detjen, Andrew R DiNardo, Jacinta Leyden, Karen R Steingart, Dick Menzies, Ian Schiller, Nandini Dendukuri, Anna M Mandalakas
Prospective evaluation of GeneXpert for the diagnosis of HIV-negative pediatric TB cases

Do Chau Giang\textsuperscript{1,2}, Tran Ngoc Duong\textsuperscript{1}, Dang Thi Minh Ha\textsuperscript{1}, Ho Thi Nhan\textsuperscript{2}, Marcel Wolbers\textsuperscript{2}, Nguyen Thi Quynh Nhu\textsuperscript{2}, Dorothée Heemskerk\textsuperscript{2}, Nguyen Dang Quang\textsuperscript{1}, Doan Thanh Phuong\textsuperscript{1}, Pham Thu Hang\textsuperscript{1}, Tran Huu Loc\textsuperscript{1}, Nguyen Thi Ngoc Lan\textsuperscript{1}, Nguyen Huy Dung\textsuperscript{1}, Jeremy Farrar\textsuperscript{2} and Maxine Caws\textsuperscript{2,3}

A Controlled Study of Tuberculosis Diagnosis in HIV-Infected and Uninfected Children in Peru

Richard A. Oberhelman\textsuperscript{1,*}, Giselle Soto-Castellares\textsuperscript{2,3}, Robert H. Gilman\textsuperscript{2,4,5}, Maria E. Castillo\textsuperscript{6,7}, Lenka Kolevic\textsuperscript{6}, Trinidad Delpino\textsuperscript{6}, Mayuko Saito\textsuperscript{2,4*}, Eduardo Salazar-Lindo\textsuperscript{6}, Eduardo Negron\textsuperscript{8}, Sonia Montenegro\textsuperscript{9}, V. Alberto Laguna-Torres\textsuperscript{3}, Paola Maurtua-Neumann\textsuperscript{10*}, Sumona Datta\textsuperscript{4,11,12}, Carlton A. Evans\textsuperscript{4,11,12}
Piloting Upfront Xpert MTB/RIF Testing on Various Specimens under Programmatic Conditions for Diagnosis of TB & DR-TB in Paediatric Population

Neeraj Raizada¹*, Kuldeep Singh Sachdeva², Soumya Swaminathan³, Shubhangi Kulsange¹, Sunil D. Khaparde², Sreenivas Achuthan Nair¹, Ashwani Khanna³, Kamal Kishore Chopra³, Mahmud Hanif⁴, Gulshan Rai Sethi⁵, K. R. Umadevi⁴, G. Keshav Chander⁵, Brojakishore Saha⁶, Amar Shah⁷, Malik Parmar⁷, Mayank Ghediya⁵, Jyoti Jaju², Catharina Boehme¹, Chinnambedu Nairarappan Paramasivan¹

Barriers to the diagnosis of childhood tuberculosis: a qualitative study

S. S. Chiang,⁎† S. Roche,‡ C. Contreras,§ V. Alarcón,¶ H. del Castillo,‖ M. C. Becerra,¶️¶ L. Lecca§
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Ethambutol-related Impaired Visual Function in Children Less than 5 Years of Age Treated for a Mycobacterial Infection

Diagnosis and Evolution

Michael Levy, MD,* Florence Rigaudière, MD, PhD,† Agathe de Lauzanne, MD,* Bérengère Koehl, MD,* Isabelle Melki, MD,* Mathie Lorrot, MD, PhD,*‡ and Albert Faye, MD, PhD*‡

Treatment outcomes for HIV and MDR-TB co-infected adults and children: systematic review and meta-analysis

P. Isaakidis,*† E. C. Casas,‡ M. Das,* X. Tseretopoulou,† E. E. Ntzani,† N. Ford§
Pharmacokinetics and Safety of Moxifloxacin in Children With Multidrug-Resistant Tuberculosis

Stephanie Thee,1,2 Anthony J. Garcia-Prats,1 Heather R. Draper,1 Helen M. McIlron,3 Lubbe Wiesner,3 Sandra Castel,3 H. Simon Schaaf,1,a and Anneke C. Hesseling1,a

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 McIlron5, A Gupta6, K Thakur6, R van Crevel7, R Aarnoutse7 and KE Dooley6
Successful Treatment of a Child With Extensively Drug-Resistant Tuberculous Meningitis

Nede Alsleben, Anthony J. Garcia-Prats, Anneke C. Hesselink, Marianne Willemse, Peter R. Donald, and H. Simon Schaaf

Extensively drug-resistant tuberculosis in a young child after travel to India

Nicole Salazar-Austin, Alvaro A Ordonez, Alice Jenh Hsu, Jane E Benson, Mahadevappa Mahesh, Elizabeth Menachery, Jafar H Razaq, Max Salfinger, Jeffrey R Starke, Aaron M Milstone, Nicole Parrish, Eric L Nuremberger, Sanjay K Jain
Interventions to improve adherence to treatment for paediatric tuberculosis in low- and middle-income countries: a systematic review and meta-analysis
Meaghann S Weaver, Knut Lönnroth, Scott C Howard, Debra L Roter & Catherine G Lam

Multidrug-Resistant Tuberculosis in Child Successfully Treated with 9-Month Drug Regimen
Jay Achar, Catherine Berry, Krzysztof Herboczek, Nargiza Parpieva, Mirzagaleb N. Tillyashaykhov, Zinaida N. Tigay, Atadjan Khamraev, Kalyan Velivela, James A. Seddon, Philipp du Cros

Outcomes of Category II anti-tuberculosis treatment in Indian children
A. Mukherjee, D. Khandelwal, M. Singla, R. Lodha, S. K. Kabra
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A Prospective Evaluation of the Symptom-Based Screening Approach to the Management of Children Who Are Contacts of Tuberculosis Cases

Rina Triasih,1,2 Colin F. Robertson,3,4 Trevor Duke,2,4 and Stephen M. Graham2,4,5

Elevated transaminases are common in children on prophylactic treatment for tuberculosis

Sara Leeb (sara.leeb@karolinska.se), Charlotte Buxbaum, Björn Fischler
Department of Pediatrics, Karolinska University Hospital, CLINTEC, Karolinska Institutet, Stockholm, Sweden
Optimizing the Detection of Recent Tuberculosis Infection in Children in a High Tuberculosis–HIV Burden Setting
Anna M. Mandalakas1,2,3, H. Lester Kirchner4, Gerhard Walzl5, Robert P. Gie3, H. Simon Schaar6, Mark F. Cotton6, Harleen M. S. Grewal7,8, and Anneke C. Hesseling3

Original Investigation

Treatment for Preventing Tuberculosis in Children and Adolescents
A Randomized Clinical Trial of a 3-Month, 12-Dose Regimen of a Combination of Rifapentine and Isoniazid

M. Elsa Villarino, MD, MPH; Nigel A. Scott, MS; Stephen E. Weis, DO; Marc Weiner, MD; Marcus B. Conde, MD; Brenda Jones, MD; Sharon Nachman, MD; Ricardo Oliveira, MD; Ruth N. Moro, MD, MPH; Nong Shang, PhD; Stefan V. Goldberg, MD; Timothy R. Sterling, MD; for the International Maternal Pediatric and Adolescents AIDS Clinical Trials Group (IMPAACT) and the Tuberculosis Trials Consortium (TBTC)
Conclusions

• Exciting times for paediatric TB
• Lots of studies being published
• Lots more work to do...