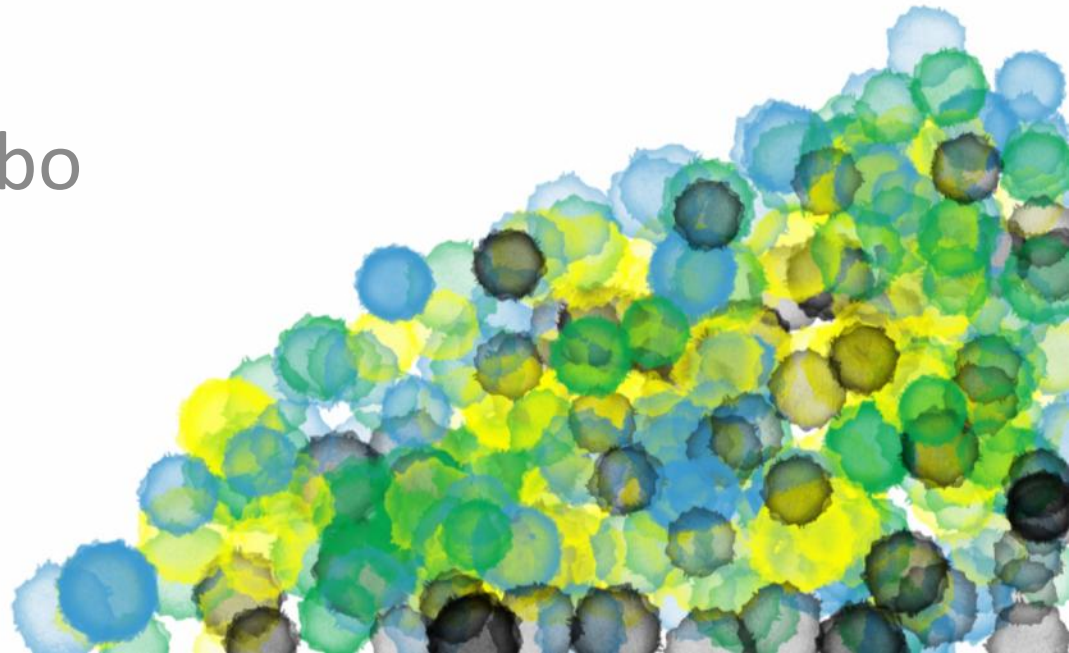



# HIV & BACTERIA INFECTION

Dr. G. Kinabo






# Specific issues

- Asymptomatic carriage of bacteria in the nasopharyngeal
  - B-cell dysfunction in association with the primary T-cell dysfunction
  - In mature/ damaged immunity
- 



# Dynamics of nasopharyngeal bacterial colonisation in HIV-exposed young infants in Tanzania

G. D. Kinabo<sup>1</sup>, A. van der Ven<sup>2,6</sup>, L. J. Msuya<sup>1</sup>, A. M. Shayo<sup>1</sup>, W. Schimana<sup>1</sup>, A. Ndaro<sup>3</sup>, H. A. G. H. van Asten<sup>4,6</sup>, W. M. V. Dolmans<sup>4,6</sup>, A. Warris<sup>5,6</sup> and P. W. M. Hermans<sup>5,6,7</sup>

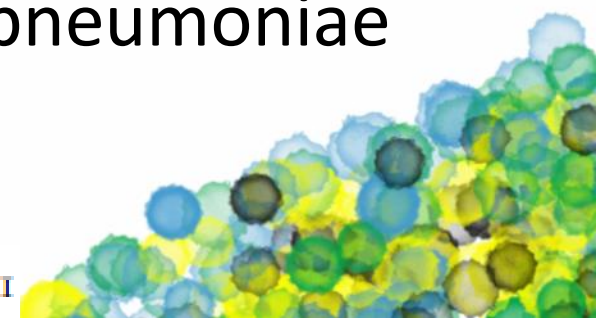
- *Staphylococcus aureus* 66%,
  - *Streptococcus pneumoniae* 56%,
  - *Moraxella catarrhalis* 50%.
  - *Haemophilus influenzae*. 14%
  - Cocolonisation of *S. pneumoniae* with *H. influenzae* or *M. catarrhalis* was mostly noticed in HIV infected infants.
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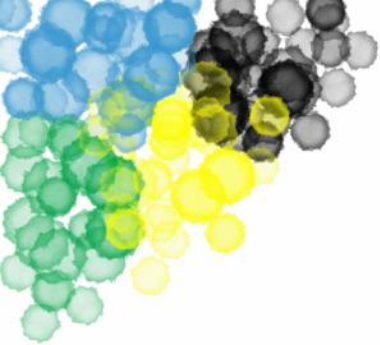


# Invasive bacterial and fungal infections among hospitalized HIV-infected and HIV-uninfected children and infants in northern Tanzania

John A. Crump<sup>1,2,3,4</sup>, Habib O. Ramadhani<sup>3,4</sup>, Anne B. Morrissey<sup>1</sup>, Levina J. Msuya<sup>3,4</sup>, Lan-Yan Yang<sup>5,6</sup>, Shein-Chung Chow<sup>6</sup>, Susan C. Morpeth<sup>1</sup>, Hugh Reyburn<sup>7</sup>, Boniface N. Njau<sup>3</sup>, Andrea V. Shaw<sup>1</sup>, Helmut C. Diefenthal<sup>3,4</sup>, John A. Bartlett<sup>1,2,3,4</sup>, John F. Shao<sup>3,4</sup>, Werner Schimana<sup>3</sup>, Coleen K. Cunningham<sup>8</sup> and Grace D. Kinabo<sup>3,4</sup>

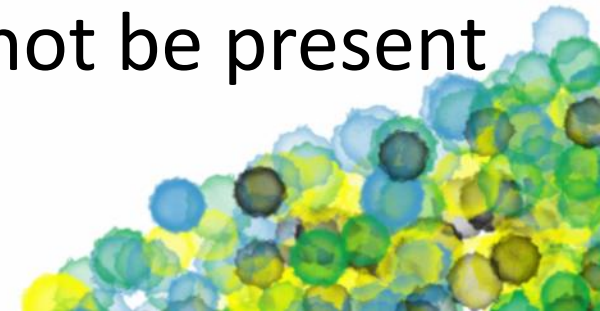
- HIV disease 10.7%
- Malaria 60.4%.
- Positive blood cultures 5.8%
- 25.9% *Salmonella enterica* (including 6 *Salmonella Typhi*)
- 22.2% *Streptococcus pneumoniae*.
- HIV infection was associated with *S. pneumoniae* (odds ratio 25.7, 95% CI 2.8, 234.0)

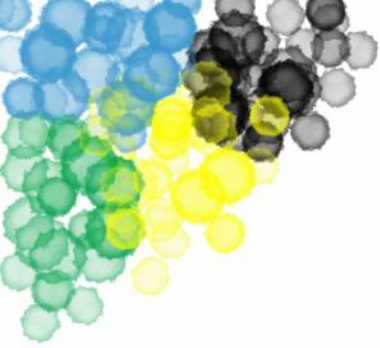




# Differences between Adults and Children

- OI in children often reflects primary infection rather than reactivation
- OI occurs at a time when infant's immune system is immature
- Different disease manifestations
  - e.g. children more likely to have non-pulmonic and disseminated TB
- Classical features of infection may not be present

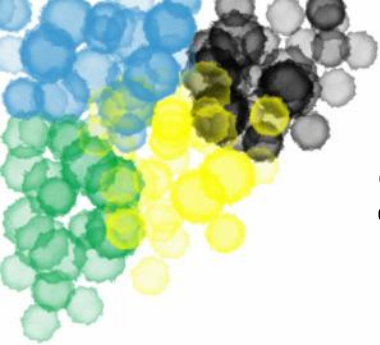




# Difficulty of Diagnosing OI in Children

- Inability to describe symptoms
- Antibody-based tests confounded by maternal transfer of antibody
- Sputum difficult to obtain without invasive procedures

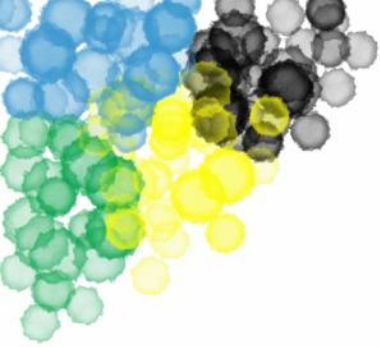




# Serious Recurrent Bacterial Infections:

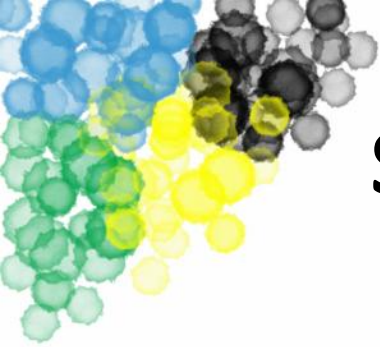
- Most common infection in pre-HAART
- bacterial pneumonia is often a presumptive diagnosis
- Bacteremia more common in HIV-infected children with pneumonia
- Gram-negative bacteremia more common in children with advanced disease





- Clinical presentation dependent on type of bacterial infection  
(eg, bacteremia, sepsis, vasculitis, septic arthritis, pneumonia, meningitis, sinusitis)
- Presentation similar to that of HIV-uninfected children
- They lack classical signs, symptoms, and laboratory tests.
- acute pneumonia have recurrent episodes.

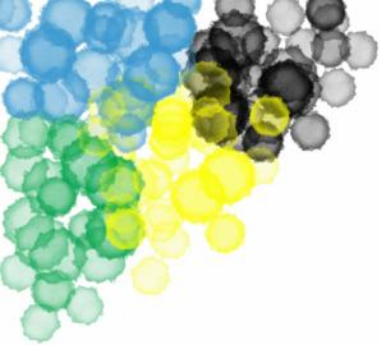




# Serious Recurrent Bacterial Infections: Prevention

- Trimethoprim sulfamethoxazole (TMP-SMX)
- Up-to-date immunization

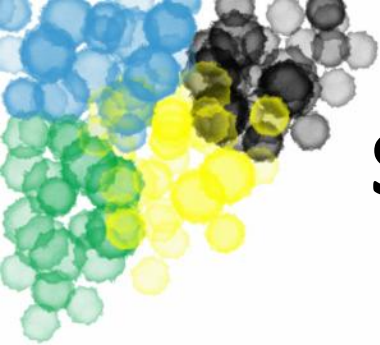




# Serious Recurrent Bacterial Infections: Treatment

- Empirically and promptly until cultures are available.
- Prevalence of resistance of common drugs
- Azithromycin for hospitalized patients with pneumonia
- Clindamycin or Vancomycin if MRSA is suspected

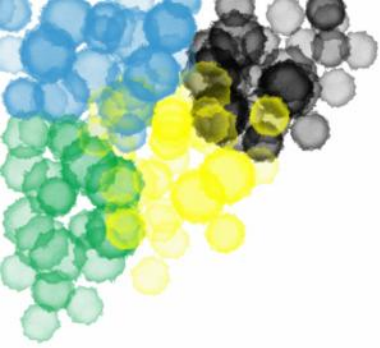




# Serious Recurrent Bacterial Infections: Treatment Failure

- Consider bacterial resistance if treatment failure occurs
- Consider nonbacterial cause such as TB, PCP, meningitis (*Cryptococcus* or TB)
- Look for catheter-related infections
- Occult abscess





# The End

Thank you for being attentive

