

CORRESPONDENCE

Authors' response

In their letter, Thomas and Spencer¹ claim that our assertion that *Staphylococcus aureus* is the most important cause of necrotising pneumonia² is wrong on the basis of the most recent evidence and that *Streptococcus pneumoniae* is currently the major cause.¹ However, although the studies cited by them document an increase in the incidence of necrotising pneumococcal pneumonia,¹ we still believe that *S aureus* is the most important pathogen clinically and therapeutically.

It has recently been found that the incidence of complicated pneumonia in children is increasing and that there is a concurrent increase in the incidence of community-associated methicillin-resistant *S aureus* (CA-MRSA) infections.^{3–5} The emergence of CA-MRSA was initially reported in the USA and in subjects with skin infections, but paediatric necrotising pneumonia due to *S aureus* has been reported in healthy subjects of different ages and patients with underlying diseases such as cystic fibrosis.^{4,5} A high level of suspicion is required in patients with severe community-acquired pneumonia, and CA-MRSA needs to be considered early in its differential diagnosis because it can lead to rapid deterioration and death unless it is appropriately and immediately treated.

Moreover, the specific antimicrobial treatment of CA-MRSA is different from

that using the traditional antimicrobial agents currently prescribed for community-acquired pneumonia. Antimicrobial agents that specifically inhibit exotoxin production, such as clindamycin and linezolid, should be preferred.⁶

Finally, no prophylaxis against CA-MRSA is yet available. On the contrary, necrotising pneumonia due to *S pneumoniae* is mainly due to serotype 3 and, in a minority of cases, serotypes 1 and 19A.² All of these are included in the 13-valent pneumococcal conjugate vaccine that has been recently licensed and included in the immunisation schedules approved for children in most industrialised countries.⁷ This means that the incidence of infections due to *S pneumoniae* may be significantly reduced in the future, whereas those associated with CA-MRSA can only remain stable or proportionally increase.

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REFERENCES

1. **Thomas MF**, Spencer DA. Necrotising pneumonia, pneumatoceles and the pneumococcus. *Thorax* Published Online First: 16 February 2012. doi:10.1136/thoraxjnl-2011-201308
2. **Principi N**, Esposito S. Management of severe community-acquired pneumonia of children in developing and developed countries. *Thorax* 2011; **66**:815–22.
3. **Schwartz KL**, Nourse C. Panton-Valentine leukocidin-associated *Staphylococcus aureus* necrotizing pneumonia in infants: a report of four cases and review of the literature. *Eur J Pediatr*. Published Online First: 13 Dec 2011. PMID: 22159957.
4. **Hidron AI**, Low CE, Honig EG, et al. Emergence of community-acquired methicillin-resistant *Staphylococcus aureus* strain USA300 as a cause of necrotising community-onset pneumonia. *Lancet Infect Dis* 2009; **9**:384–92.
5. **Carrillo-Marquez MA**, Hulten KG, Hammerman W, et al. *Staphylococcus aureus* pneumonia in children in the era of community-acquired methicillin-resistance at Texas Children's Hospital. *Pediatr Infect Dis J* 2011; **30**:545–50.
6. **Lin YC**, Peterson ML. New insights into the prevention of staphylococcal infections and toxic shock syndrome. *Expert Rev Clin Pharmacol* 2010; **3**:753–67.
7. **Paradiso PR**. Advances in pneumococcal disease prevention: 13-valent pneumococcal conjugate vaccine for infants and children. *Clin Infect Dis* 2011; **52**:1241–7.