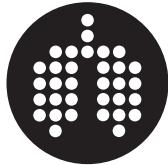


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### **Educational questions.**

**"Risk factors for respiratory failure in pneumococcal pneumonia: the importance of pneumococcal serotypes"**  
For some questions more than one answer could be correct.

#### **1. Which of the following statements is true regarding the severity of the pneumococcal disease?**

Extremes of age, co-morbidities or immunosuppressive conditions are associated with an increased susceptibility to pneumococcal disease but not with a higher severity of the illness.  Organism-related factors as pneumococcal serotype and bacterial load have little impact in the severity of pneumococcal disease.  Viral co-infection or previous receipt of pneumococcal vaccination do not seem to influence the outcome of the disease.  Host factors, organism-related factors and other external factors play an important role in the severity of pneumococcal disease.

#### **2. Which of the following statements is true?**

Pneumococcal serotypes 3, 19A and 19F cause infections in patients with co-morbidities, with higher rates of septic shock, respiratory failure and mortality.  Pneumococcal serotypes 5 and 7F were classified as high invasive serotypes, and they were associated to invasive disease in older adults.  Pneumococcal serotype 1 cause infections in young patients, with low mortality and low rates of suppurative complication.

#### **3. Which of the following mechanisms might explain better why some specific pneumococcal serotypes might cause respiratory failure?**

The exact mechanism that explains why specific serotypes cause respiratory failure is well known.  The thickness of the capsule serotype seems to be the only factor associated with the development of respiratory failure.  Although the thickness of the capsule serotype seems to be one of the most important factors associated with the development of respiratory failure, other factors such as the expression of different adhesins must play an important role.  The development of respiratory failure depends exclusively on the inflammatory response determined by the age and co-morbidities of the patient with pneumococcal pneumonia.

#### **4. Regarding the risk factors for respiratory failure in pneumococcal pneumonia, which of the following statements is true?**

Pneumococcal serotypes 3, 19A and 19F are the only determinants of respiratory failure.  Pneumococcal serotypes 3 and 19F are the most determinant factors for respiratory failure in older patients with co-morbidities.  Pneumococcal serotypes 19A and 19F are the most determinant factors for respiratory failure in young adults without co-morbidities.  Pneumococcal serotype 1, an important cause of empyema, increases the risk of developing respiratory failure