

# Mycoplasma pneumoniae infection-induced Stevens-Johnson syndrome

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## Objective

To describe a case of Stevens-Johnson syndrome associated with Mycoplasma infection and demonstrate how early detection and diagnosis can produce a favourable outcome.

### MYCOPLASMA PNEUMONIAE

- A well known childhood pathogen<sup>1</sup>
- A prokaryote ⇒ lacks a cell wall<sup>1</sup>
  - cannot be Gram-stained
  - not susceptible to antibiotics which affect cell walls such as beta-lactams
  - susceptible to antibiotics that interfere with protein or DNA synthesis such as tetracyclines, macrolides and quinolones
- Serology the most common method of diagnosis<sup>2</sup>
- Is primarily a respiratory pathogen, but can cause extrapulmonary disease (for example: skin, gastrointestinal, cardiovascular, renal)<sup>3</sup>

### STEVENS-JOHNSON SYNDROME

- Characterised by mucous membrane erosions and widespread blisters, often predominant on the chest and presenting with erythematous and purpuric macules<sup>4</sup>
- Extent of skin involvement variable<sup>5</sup>
- Systemic symptoms are common and can include high fever and malaise<sup>6</sup>
- Most commonly associated with drug reactions, but can be triggered by infections such as Herpes or Mycoplasma<sup>4</sup>
- Treatment is supportive and symptomatic, and should include skin and mucous membrane care<sup>7</sup>

## Clinical features in this case

- JH, 6 year old boy, previously well
- No known medical history or allergies
- No regular medications
- 12 days history of respiratory symptoms
  - cough, fever
  - unsuccessful treatment with oral amoxicillin
- Two days history of rash and painful mouth ulcers

### ON EXAMINATION:

- miserable
- exudative conjunctivitis
- several oral ulcerations
- erythema multiforme
- cervical lymphadenopathy

## DIAGNOSIS:

Stevens-Johnson syndrome  
(possibly infection induced)

### PROGRESS:

#### DAY 1

- Treatment commenced:
  - intravenous immunoglobulin
  - topical chloramphenicol for eyes
  - oral roxithromycin

#### DAY 2

- Diagnosis confirmed: Mycoplasma serology positive
- Severe oral symptoms ⇒ poor oral intake
  - commenced nasogastric feeds
  - provided appropriate mouth care
- Severe skin lesions ⇒ pain and infection control
  - appropriate dressings
  - morphine and ketamine infusions

#### DAY 3 TO DAY 5

- No changes in symptoms ⇒ treatment continues

#### DAY 6

- Skin lesions healing ⇒ dressings maintained

#### DAY 7

- Morphine and ketamine infusions weaned

#### DAY 15

- JH discharged home with no further sequelae

An example of the rash from Stevens-Johnson syndrome



Mucosa involvement of Stevens-Johnson syndrome



## Conclusion

Mycoplasma pneumoniae infection in children can induce Stevens-Johnson syndrome. As this case demonstrated, a successful outcome can be achieved by early diagnosis and detection.

## References

1. Othman N, Isaacs D, Kesson A. Mycoplasma pneumoniae infections in Australian children. *Journal of Paediatrics and Child Health* 2005 41; 12: 671-6.
2. Hammerschlag MR. Mycoplasma pneumoniae infections. *Curr Opin Infect Dis* 2001; 14: 181-6.
3. Cherry JD, Ching N. Mycoplasma and ureaplasma infections. In: Feigin RD, Cherry JD (eds). *Textbook of Pediatric Infectious Diseases*, 5th ed. Pennsylvania: W.B. Saunders, 2004; 2516-47.
4. Assier H, Bastuji-Garin S, Revuz J, Roujeau JC. Erythema multiforme with mucous membrane involvement and Stevens-Johnson syndrome are clinically different disorders with distinct causes. *Arch Dermatol* 1995; 131: 539-543.
5. Vanfleteren I, Van Gysel D, De Brandt D. Stevens-Johnson syndrome: A Diagnostic Challenge in the Absence of Skin Lesions *Pediatric Dermatology* 2003; 20: 52-6.
6. Reichert-Penetrat et al. An unusual form of Stevens-Johnson Syndrome with subcorneal pustules associated with Mycoplasma pneumoniae infection. *Pediatric Dermatology* 2000; 17: 202-4.
7. Léauté-Labrèze C et al. Diagnosis, classification, and management of erythema multiforme and Stevens-Johnson syndrome. *Arch Dis Child* 2000; 83: 347-352.

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