Clinical picture

String test of hypervirulent *Klebsiella pneumonia*

A 63-year-old woman with a history of type 1 diabetes mellitus and IgA nephropathy, on maintenance dialysis for 10 years, presented with exertional dyspnea of 1 week’s duration and bloody sputum since the previous day.

On the day of admission, the patient had awoken with clouding of consciousness; she was brought to the emergency outpatient department by ambulance. On arrival, vital signs were: blood pressure, 84/35 mmHg; regular pulse rate, 92/min; respiratory rate, 24/min; body temperature, 35.6°C; SpO₂, 97% (oxygen 10 l/min); level of consciousness, GCS E4V4M5. Coarse crackles were audible over both lungs. She was hospitalized with pneumonia confirmed by chest computed tomography; on the same day, she was placed on a ventilator in the intensive care unit due to progressive deterioration of her condition. Septic shock occurred and was treated with intensive care; she died the day after admission. Autopsy revealed the main lesions in the lungs but no infectious foci in the heart, liver or dialysis shunt. *Klebsiella pneumoniae* was detected from sputum and blood cultures. String tests of colonies from the culture media, which have a pathognomonic gross appearance, were positive with strings 6 mm in length (Figure 1). The magA and rmpA genes were identified; establishing the diagnosis of infection due to hypervirulent *K. pneumoniae* was established.¹ This bacterial infection is extremely invasive with a high mortality rate.¹ A positive string test, which can easily be performed in the laboratory, defines the infection and is also useful for early diagnosis.¹

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Reference