

# Methicillin Resistant Staphylococcus Aureus Pneumonia Accompanied with Transverse Myelitis

Gökhan Kalkan<sup>1</sup>, Abdülbaki Karaoglu<sup>1</sup>, Sebahattin Vurucu<sup>2</sup>, Bülent Ünay<sup>2</sup>, Faysal Gök<sup>1</sup>, Ridvan Akin<sup>2</sup>, Mehmet Tayyip Arslan<sup>3</sup>

## ABSTRACT

Transverse myelitis (TM) is an acute inflammation of spinal cord characterized by demyelination. Infectious, inflammatory and autoimmune etiologies constitute the most common etiologies of TM. It is believed that pathological changes in infection related cases occur due to altered immune response rather than direct effect of the infection. Methicillin resistant Staphylococcus aureus (MRSA) a well known agent of hospital and sometimes community acquired pneumonia leads to increased morbidity and mortality. Here we describe a case of transverse myelitis as an unusual complication of MRSA pneumonia. To our knowledge, this is the first reported case of transverse myelitis developed with MRSA pneumonia.

**Key words:** Methicilline resistant staphylococcus aureus, pneumonia, transverse myelitis

## Transvers Miyelit ile Seyreden Metisiline Dirençli Staphylococcus Aureus Pnömonisi

### ÖZET

Transvers miyelit (TM) spinal kordun demiyelinizasyonla karakterize akut enflamasyonudur. Enfeksiyöz, enflamatuvar ve otoimmün nedenler TM'nin en sık nedenleridir. Enfeksiyona bağlı vakalarda patolojik değişikliklerin direk etkiden çok bozulmuş immün yanıtla ilgili olduğuna inanılmaktadır. Metisiline dirençli Staphylococcus aureus (MRSA) artmış mortaliteyle giden önemli bir pnömoni nedenidir. Burada MRSA pnömonisinin sıra dışı komplikasyonu olarak gelişen bir TM olgusu tarif edilmiştir. Bu birliktelik İngilizce tıp literatüründe ilk kez tarif edilmektedir.

**Anahtar kelimeler:** Metisiline dirençli Staphylococcus aureus, pnömoni, transvers miyelit

## INTRODUCTION

Transverse myelitis (TM) is an acute inflammation of spinal cord characterized by demyelination. Presenting symptoms of patients and neurologic findings varies greatly depending on the spinal cord level involved. Infectious, inflammatory and autoimmune etiologies constitute the most common etiologies of TM (1). It is believed that pathological changes in infection related cases occur due to altered immune response rather than direct effect of the infection. Methicillin resistant Staphylococcus aureus

(MRSA) a well known agent in hospital and sometimes community acquired pneumonia leads to increased morbidity and mortality (2). We would like to share our experience of an interesting case of transverse myelitis as an unusual complication of MRSA pneumonia.

## CASE

This was a 13 years old girl who was hospitalized for pneumonia. Her recent medical history was notable with

<sup>1</sup>Gulhane Military Medical Academy Department of Pediatrics Ankara- Turkey,

<sup>2</sup>Gulhane Military Medical Academy Division of Pediatric Neurology Ankara- Turkey,

<sup>3</sup>Defne Medical Center Department of Pediatrics Hatay- Turkey

Correspondence: Gokhan Kalkan, Cemal Gursesul c. 68/5 Cebeci- Cankaya-06590 Ankara/ Türkiye

E-mail: gkalkanmd@yahoo.com

a knee surgery 1 week ago requiring 1 day of hospitalization. Her other medical record was significant with an operation for meningomyelocele and ventriculoperitoneal shunt. Her pneumonia was worse enough to require mechanical ventilation and bronchoscopy for bronchoalveolar lavage which grew MRSA. While the pneumonia started to resolve with the initiation of linezolid, the patient developed upper extremity weakness with areflexia. Consequently, a spinal MRI was performed demonstrating signs of diffuse myelitis (Figure 1). Steroid treatment for TM was deferred due to ongoing infection and her neurologic status were improved with physical therapy.

## DISCUSSION

TM is acute demyelinating disorder of spinal cord without any mechanical compression. Since TM can be seen with various conditions, it is wise to investigate the presence of direct infection, systemic or autoimmune diseases. Acute disorders of spinal cord including bacterial abscess, tumor, vascular malformation and hematoma can easily be differentiated with imaging modalities. In our case, prominent MR images with new onset upper extremity weakness and areflexia lead to the diagnosis of transverse myelitis. To our knowledge, this is the first reported case of transverse myelitis concurrent with MRSA pneumonia.

## REFERENCES

1. Berman M, Feldman S, Alter M, Zilber N, Kahana E. Acute transverse myelitis: incidence and etiologic considerations. *Neurology* 1981;31(8):966-71.
2. Fagon JY, Maillet JM, Novara A. Hospital-acquired pneumonia: methicillin resistance and intensive care unit admission. *Am J Med* 1998;104(5A):175-235.

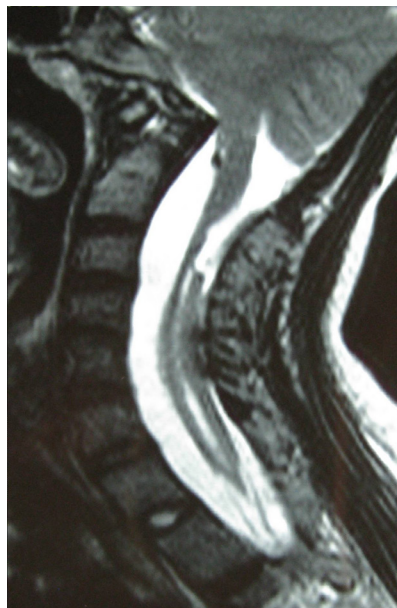


Figure 1. Sagittal T2 weighed spinal magnetic resonance images showing anterior cord hyperintensity.