

A case of retropharyngeal abscess with spondylitis causing tetraplegia

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Abstract

We report a case of retropharyngeal abscess with spondylitis causing tetraplegia. At a previous hospital, administration of antibiotics improved the inflammation findings. However, magnetic resonance imaging showed a remaining retropharyngeal abscess. This patient showed a disturbance of consciousness under this therapy. Therefore, he was admitted to our hospital and underwent a drainage operation. At 1 day after this operation, he recovered from the disturbance of consciousness.

Introduction

Retropharyngeal abscesses occur most commonly in infants.¹ Since the retropharyngeal lymphnode generally begins to atrophy at 3 years of age, the incidence of retropharyngeal abscess tends to decrease in children after 3 years of age. However, some hospitals have reported adult cases of retropharyngeal abscess. Recently, the incidence of adult cases has been increasing, and some cases were accompanied by serious complications.^{2,3} We report herein a case of retropharyngeal abscess with spondylitis causing tetraplegia.

Case Report

An 85-year-old Japanese man was admitted to the internal medicine of the previous hospital in November 2009 with a 7-day history of fever as his chief complaint. At the first examination, his temperature and O₂ saturation (room air) were 37.9°C and 96% respectively. Blood examinations showed high inflammation findings [WBC (17,900/ μ L), CRP (35.2 mg/dL)]. Blood culture revealed *Staphylococcus aureus*. At this hospital, the administration of antibiotics improved the inflammation findings. However, the patient presented with tetraplegia, cervical pain and stiffness 3 days after the first examination. Neck magnetic resonance imaging (MRI) and comput-

ed tomography showed retropharyngeal abscess in front of the C3-6 cervical spine (Figure 1). The evidence for the diagnosis for spondylitis included tetraplegia as its clinical feature and bone destruction with an abscess in the C5-6 intravertebral space by MRI. From the above data, the patient was diagnosed as having retropharyngeal abscess with spondylitis causing tetraplegia. At the previous hospital, the neurologists continued to treat him with antibiotics but without surgery. However, his consciousness became disturbed 7 days after the first examination. He was therefore, transferred to our hospital. At the first physical examination, we observed no swelling of the retropharyngeal wall or tonsils, and no neck abscess signs. His temperature was 35.9°C. Our blood examinations showed slight inflammation findings [WBC (12,500/ μ L), CRP (1.8 mg/dL)]. However, cerebrospinal fluid examination revealed pleocytosis with low glucose levels, but not tubercle bacilli. The patient underwent a drainage operation by a cervical incision approach (Figure 2). The retropharyngeal abscess was below the level of the hyoid bone, and we employed drainage by a cervical approach, as recommended previously,⁴ because sufficient drainage could not be obtained by transoral incision. The bacterial culture finding of pus in the retropharyngeal abscess showed *Staphylococcus aureus*, but not tubercle bacilli. We administered meropenem hydrate 6.0 g/day and vancomycin hydrochloride 2.0 g/day after surgery. He recovered from the disturbance of consciousness 1 day after this operation. He returned to the first hospital 6 days after the surgery.

Patients with retropharyngeal abscess with spondylitis have been reported to have a his-

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tory of factors suggesting impaired immunity, for example, diabetes, renal insufficiency with artificial dialysis, or old age, as in our case.^{2,3} Some hospitals have reported that tubercle bacilli cause retropharyngeal abscesses related to cervical Pott's disease.^{3,5} Nakamura and Wiilenborg have described spondylitis due to a type of *Streptococcus*, as in our case.^{2,6}

In our case, antibiotics remarkably impro-



Figure 1. Magnetic resonance imaging (T2WI sagittal) showed a prevertebral retropharyngeal abscess (asterisk) anterior to C3-6 and bone destruction with an abscess in the C5-6 intravertebral space (black arrow).



Figure 2. In the operative findings, the left side is toward the head: we could identify the abscess walls in front of the left longus colli muscle and make an incision for drainage (asterisk).

ved the inflammation findings. However, the remaining retropharyngeal abscess may have caused the disturbance of consciousness in spite of the administration of antibiotics. Therefore, we need to determine whether or not a retropharyngeal abscess remains by MRI, even if reduced inflammation findings are observed in the physical and blood examinations during the administration of antibiotics. MRI is particularly useful for the diagnosis of retropharyngeal abscess.⁷ If MRI does show a remaining retropharyngeal abscess, a drainage operation should be employed to protect against severe complications such as coma.

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