Brain Abscess secondary to *Staphylococcus intermedius* in a Previously Healthy Girl

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Introduction

Brain abscess is a focal collection within the brain parenchyma, bacteria can invade the brain either by direct spread or through hematogenous seeding. The most frequent causes of brain abscess are *Streptococcus* and *Staphylococcus* spp; among these species, viridans streptococci and *Staphylococcus aureus* are the most common causes.

Staphylococcus intermedius a coagulase-positive staphylococcus that is closely related to *S. aureus* and shares some virulence factors. The microorganism was first described as a human pathogen in 1989. *S. intermedius* can be found on the body surfaces and oral flora of animals like dogs, cats, horses. As this bacterium is a zoonotic pathogen, it has been identified very rarely as a cause of infection in humans. There are various reported cases range from dog bite wounds, bacteremia, pneumonia, skin and brain abscess. Herein, we report brain abscess caused by *S. intermedius* in a previously healthy girl.

Case

A 4 year-old girl presented to our clinic with the complaints of fever and partial seizure. She had the history of headache, fever, nausea and vomiting for one month. She was lethargic and right hemiparetic. Laboratory investigation revealed white blood cell count 24 600/mm³, erythrocyte sedimentation rate 74/hour, C-reactive protein 2.93 mg/dl. The chest x-ray, echocardiography and abdominal ultrasonography findings were all normal. The immunoglobulin, peripheral blood lymphocyte subsets and *Nitro blue tetrazolium* were normal. Cranial computerized tomography (CT) demonstrated an abscess of 32x36 mm in left parietal lobe. Abscess drainage was done by neurosurgery, Gram staining of the pus revealed gram-positive cocci and *S. intermedius* was identified in culture. The patient had a good recovery without any residual hemiparesis with a 8 week course of intravenous treatment with vancomycin. The control imaging of brain was normal.

Conclusion

Childhood brain abscesses are rare but serious infection of the brain parenchyma which need urgent diagnosis and treatment. Immunocompromised states and congenital heart disease are considered as predisposing factor but rarely can develop without any underlying process as in our patient. The manifestations of brain abscess initially tend to be nonspecific, resulting in a delay in establishing the diagnosis. Headache is the most common symptom of a brain abscess that must be kept in mind for the diagnosis of brain abscess. CT scan is not as sensitive as magnetic resonance imaging for the diagnosis of brain abscess but can frequently be obtained more easily on an emergent basis.