Case Report

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Lemierre's Syndrome: A Case Report

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Abstract

Lemierre's syndrome is a syndrome with high mortality, causing internal jugular vein (IJV) thrombophlebitis, septic lung and other organ embolism, which often develops as a complication of oropharyngeal infections. Mortality can be reduced with early diagnosis and appropriate antibiotic treatment. It is a rare syndrome and the case we have presented here differs from the cases with lemierre syndrome previously reported because of the involvement of superior vena cava (SVC) and subclavian vein.

Keywords: Lemirerre's syndrome, Thrombophlebitis, retropharyngeal abscess, vena cava superior syndrome

Introduction

Lemirerre's syndrome is a mortal condition that often progresses with septic thrombophlebitis of the IJV caused by Fusobacterium necrophorum. Thrombophlebitis can cause metastatic septic emboli and bacteremia by hematogenous spread. Although the primary site of the infection is palatine tonsillar and peritonsillar tissue, it has been determined that mastoiditis, odontogenic infections, parotitis, sinusitis or the skin and subcutaneous tissue of the head and neck region may also be sources[1]. Mortality and morbidity can be prevented with early diagnosis and appropriate antibiotherapy.

Case

A 35-year-old male patient, who had no known additional disease, came to the emergency department with the complaint of pain and swelling in the throat that started a week ago. He was diagnosed with upper respiratory tract infection and was discharged with oral symptomatic treatment. After 3 days, he came back to the emergency department with the complaint of increased swelling in the head and neck and not decreasing his symptoms.

Vitals were normal on physical examination. Oropharynx hyperemic, tonsillar hypertrophic, distended neck veins, pletorrhea, upper extremity/face/neck swelling were present. Other system examinations were normal. Leukocyte was 8200 / µL, and neutrophil was 72.3%. C-reactive protein (CRP) (2.61 mg / dL) increased. Since the patient's symptoms were compatible with vena cava superior syndrome (VCSS), first thorax computed tomography (CT) with contrast was performed to detect thrombus in the SVC. Thorax CT showed a thrombus that extended to the subclavian vein and filled the lumen in the SVC.

Abdominal ultrasonography and cranial magnetic resonance imaging were performed because the possible neoplasm that caused thrombosis at a young age needed to be excluded. But no additional pathology was found. The patient was consulted to the department of cardiovascular surgery and hematology. Low molecular weight heparin subcutaneous treatment was recommended and tests were taken by hematology considering the causes that may cause hereditary thrombosis. These tests include; complete blood count (CBC) and morphology (for myeloproliferative diseases), prothrombin time (for low protein C and S), partial thromboplastin time (for antiphospholipid syndrome), thrombin time (for dysfibrinogenemia), antinuclear antibody test, coagulation tests for lupus anticoagulant, Enzyme-Linked ImmunoSorbent Assay (ELISA) for anticardiolipin antibodies, factor V leiden or activated protein C resistance, fasting total plasma homocysteine level, protein C and protein S levels, antithrombin III level, plasma factor VIII levels, Prothrombin 20210 mutation by Polymerase Chain Reaction (PCR) method.

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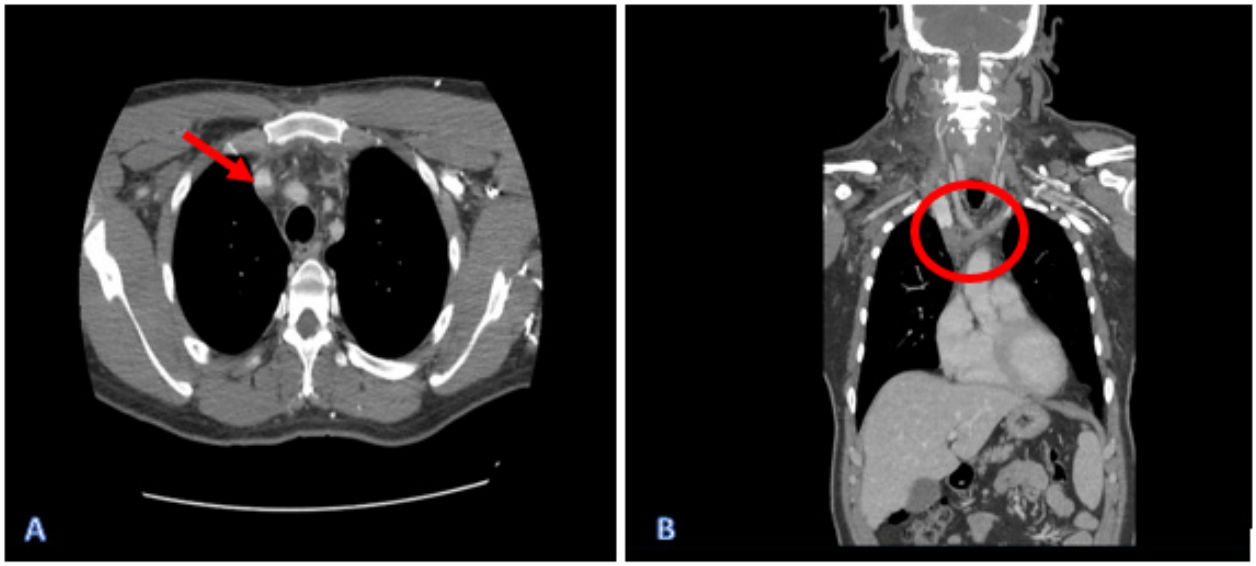
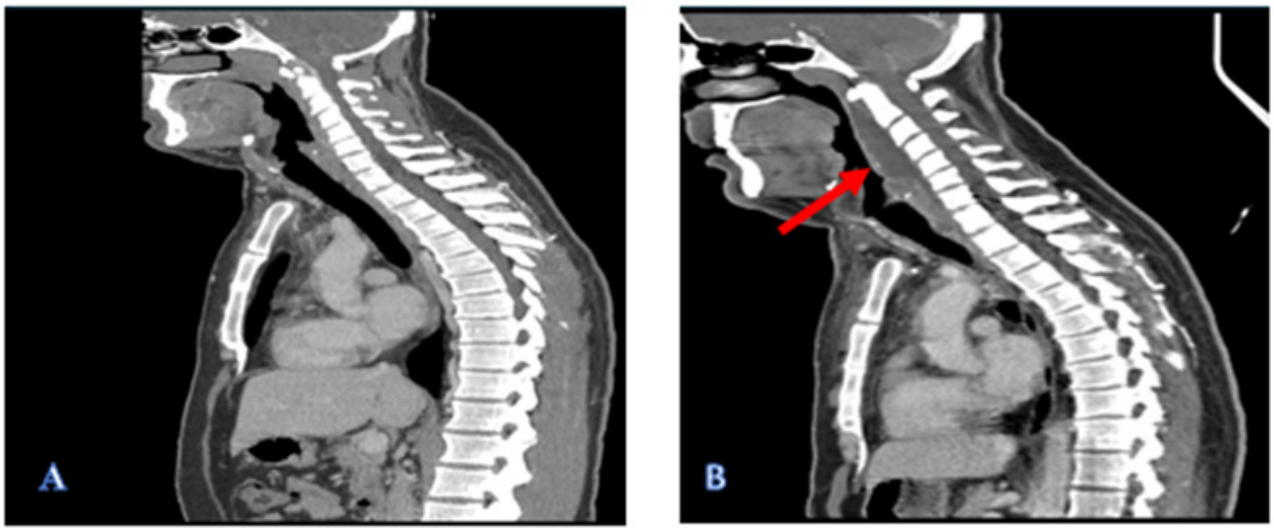


Figur 1. A: Thrombus in the subclavian vein as shown in the Computed Tomography of the Thorax. B: Thrombus that extended to the subclavian vein and filled the lumen in the superior vena cava vein as shown in the Computed Tomography of the Thorax

Throat and neck swelling increased and his symptoms progressed for three days despite treatment. Considering that interventional thrombectomy could be performed, thorax CT with contrast was taken again three days later in order to determine the size of the thrombus in the veins. Retropharyngeal abscess was detected on thorax CT with contrast. The patient was consulted to the department of Otorhinolaryngology. He was hospitalized in the service with a pre-diagnosis of Lemierre's Syndrome and intravenous antibiotherapy was started. Surgical abscess drainage was added to intravenous antibiotherapy because of abscess development. Both thrombosis and retropharyngeal abscess regressed with antibiotic and surgical abscess drainage therapy for 2 weeks.

Discussion

Lemierre's Syndrome is a mortal condition caused by Fusobacterium necrophorum, often in healthy individuals aged 16-25. Many organisms including Bacteroides, Eikenella, Porhyromonas, Prevotella, Proteus, Streptococus, Peptostreptococcus and Staphylococcus aureus have been reported in the etiology of Lemierre's syndrome. The clinical findings of the patients develop depending on the primary site of the infection Although sore throat is the first common finding, fever, neck swelling, dyspnea and hemoptysis due to pulmonary involvement, muscle and joint pains can also be seen in the classic clinical findings[2]. In this case, swelling



Figur 2. A: No pathology in the pharynx in the Computed Tomography of the Thorax B: After 3 days, retropharyngeal abscess as shown in the Computed Tomography of the Thorax

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that spread from the head-neck region to the shoulders after admission with a simple upper respiratory tract infection was the main symptom.

Infection passes from most commonly in the primary area of the palatine tonsils and pharynx and the middle ear, paranasal sinuses or parotid gland to the lateral pharyngeal region where the internal jugular vein is located, and causes septic thrombophlebitis. Septic thrombophlebitis causes septic embolization in the distal regions[3]. In terms of septic embolization that may occur in this case, the patient was evaluated as multisystemic and no pathological condition was found.

The disease should be considered in line with the present symptoms and the diagnosis should be confirmed with examinations. Therefore, CT with contrast of the neck region is the preferred imaging method for showing thrombus. Here, too, the thrombus was visualized with CT. In addition, as an alternative to CT, the existing thrombus can be imaged by using Doppler ultrasonography at the bedside. Although this method is less invasive, it is less sensitive to detect thrombus in deeper regions under the clavicle and manbidula[4].

Complications can lead to death if the diagnosis is not made quickly and antibiotherapy is not initiated[5]. The first step should be the initiation of intravenous antibiotherapy for all factors in the etiology[6, 7]. As penicillin-resistant strains have been reported, empiric therapy should consist of clindamycin or metronidazole or the use of a combination of betalactams with beta-lactamase inhibitors[8]. Although there is no consensus on the duration of treatment in the literature, 4-6 weeks is the general approach[9, 10]. If abscess development occurs during the course of the disease, surgical evacuation must be provided. In this case, surgical abscess drainage was added to intravenous antibiotherapy because of abscess development. There is controversy about the place of anticoagulation therapy for developing thrombus[11, 12].

Conclusion

In conclusion, Lemierre's syndrome is classically defined as a rare disease with a mortal course and manifested by fever, swollen neck and sore throat in young people. Initial clinical findings may be mild and atypical. We think that for early and accurate diagnosis, the disease should be kept in mind and skeptical.

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