Introduction

Lemierre’s syndrome, also known as postanginal sepsis or human necrobacillosis, is a rare complication of pharyngitis arising from the anaerobic, gram-negative bacterium Fusobacterium necrophorum. André Lemierre is credited with the isolation of Fusobacterium necrophorum and a clear description of the syndrome. During the pre-antibiotic era, young, healthy adults were dying from what is known today as Lemierre’s Syndrome. With the invention of antibiotics in the 1940’s, Lemierre’s became nearly extinct, which gave it the name the “Forgotten Disease.” Lemierre’s most often begins as a tonsillar infection that creates a peritonsillar abscess near the lateral pharyngeal space. Researchers are unclear how an individual gains exposure to Fusobacterium necrophorum. The spread of the infection from the tonsillar tissue to the internal jugular vein is a complex process and researches have different views. The most accepted idea is that the organism first originates in the blood of the tonsillar vein. From the tonsillar vein, bacteria are spread through the lateral pharyngeal space, where they eventually merge with the internal jugular vein causing thrombosis. Now in the bloodstream, Fusobacterium necrophorum causes sepsis throughout the body with the lungs most commonly affected. Septic pulmonary emboli cause the classic respiratory symptoms of Lemierre’s syndrome. The spread of the infection from the tonsillar vein to the internal jugular vein is the internal vein thrombosis.

Case Report

A previously healthy 19-year old Division 1 Linebacker, with a history of asthma, rapidly developed a severe sore throat followed by night sweats, fever, nausea, vomiting, shortness of breath and generalized body weakness at summer football camp. Additionally during camp, he took a direct blow from the helmet to his left arm causing localized edema. Weakness at summer football camp.

He visited an athletic trainer who did not recognize the signs and symptoms or provide a diagnosis. Additionally during camp, he took a direct blow from the helmet to his left arm causing localized edema. Weakness at summer football camp.

Emergency medicine performed full review of body systems.
- Vital: Tachycardia and low-grade fever.
- Tests: Negative lumbar puncture, monospot and rapid strep test.
- CBC: Leukocytosis and thrombocytopenia.
- Evaluated by internal medicine, general surgery and infectious disease physicians.
- Diagnosis: Sepsis with bacterial pharyngitis the likely etiology.
- Placed on IV antibiotic Rocephin.
- Also given anticoagulant Lovenox for potential DVT in left arm.
- Blood cultures were sent to the lab.
- With his worsening throat pain, EMT was consulted.
- Thorax evaluation: Tonsils were red with a prominence off the left tonsil.
- Neck CT: Peritonsillar abscesses and thrombosis of the left internal jugular vein. See Figure 1.
- Blood culture: Fusobacterium necrophorum.
- Confirmed the diagnosis of Lemierre’s syndrome.
- Placed on the antibiotic Unasyn and the left tonsil was removed in surgery.

Follow-Up Care
- Emergency transferred to a more advanced hospital because of the internal vein thrombosis.
- Chest CT: Nodular lesions in the lungs. See Figure 2.
- Placed on the antibiotic Vancomycin.
- The physicians suspected pneumonia.
- Developed bilateral pleural effusions.
- Day 6: Drained left pleural effusion by thoracentesis.
- See Figure 2.
- Placed on the IV anticoagulant heparin because of the extension of the thrombus.
- Transferred into Xarexol, an oral anticoagulant later on.
- Day 15: Discharged from hospital.
- After 2 months he returned to college and was reevaluated.
- Ultrasound of the vein revealed chronic thickening of the vein.
- No visible thrombosis.
- Athlete was cleared for football with no further complications.

Differential Diagnosis
- Streptococcal or viral pharyngitis
- Infectious mononucleosis
- Staphylococcal endocarditis
- Bacterial, Atypical and Aspiration pneumonia
- Intra-abdominal sepsis
- Septic pulmonary emboli

Clinical Significance
- This case report demonstrates that athletic trainers should have increased awareness of Lemierre’s syndrome.
- Athletic trainers should be able to recognize the rapid signs and symptoms. See Table 1 below.

Table 1. Common Signs and Symptoms of Lemierre’s Syndrome

<table>
<thead>
<tr>
<th>Sign</th>
<th>Symptom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sore throat</td>
<td>Fever</td>
</tr>
<tr>
<td>Rigors</td>
<td>Neck mass</td>
</tr>
<tr>
<td>Night sweats</td>
<td>Abdominal pain</td>
</tr>
<tr>
<td>Chest pain</td>
<td>Gastrointestinal symptoms</td>
</tr>
<tr>
<td>Dyspnea</td>
<td>Night sweats</td>
</tr>
<tr>
<td>Cough/hemoptysis</td>
<td>Malaise</td>
</tr>
<tr>
<td>Bone/joint pain</td>
<td>Ear pain</td>
</tr>
</tbody>
</table>

Uniqueness
- Lemierre’s occurs in healthy, young adults with the average age ranging from 16-25 years old; the main population that athletic trainers work with.
- Early recognition and referral to a physician by the athletic trainer is critical for preventing the complications of Lemierre’s syndrome.

References