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A Case Report on Lemierre's Syndrome

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Abstract

Lemierre's syndrome is an uncommon and become life threatening infection if it infected in the internal jugular vein (IJV).Clinical manifestations include fever, throat pain, internal jugular vein thrombophlebitis, neck and facial swelling. It can be diagnosed with positive blood culture, abnormal clotting factors and radiological evidence of thrombus in IJV. Here we document the clinical case of a 13-year-old boy with Lemierre syndrome presented with complaints of a swollen face.with bilateral conjunctival congestion, bilateral neck swelling and was treated prophylactically with antibiotics, blood thinners and provided supportive measures.

Keywords

Lemierre's syndrome, Internal Jugular Vein, Thrombophlebitis

Introduction

Lemierre syndrome is a unprecedented condition characterised with the aid of using septic thrombophlebitis of the inner jugular vein (IJV).The circumstance typically begins with an oropharyngeal infection and frequently involves irritation with inside the lining of the vein, inflamed thrombus in the lumen, surrounding smooth tissue, irritation, persistent bacteremia, and septic emboli. it's far found in school-aged kids and healthful younger adults. In human beings with Lemierre syndrome, the preliminary infection spreads to tissues and deep areas in the neck, which results in the formation of an inflamed clot-septic thrombophlebitis, every so often which includes pus,into the inner jugular vein (the blood vessel that contains blood from the brain, face and neck) [1].

Case Report

Herein we report a case of a 13 year old boy presented with complaints of fever for 40 days and facial swelling with bilateral conjunctival congestion,

bilateral neck swelling for a week. He had two episodes of vomiting and loose stools and had a history of bacterial infection with mouth ulcers and was treated prophylactically from an outside hospital. CT was done outside which revealed thrombus in the bilateral internal jugular vein suggestive of Lemierr's syndrome.Then he was referred to our hospital for further management.On examination he presented with facial swelling with bilateral conjunctival congestion, bilateral neck swelling, dilated veins bilateral anterior chest wall and abdomen and bulging on sternal region . Labs carried out elevated levels of CRP (123.6mg/L), D-dimer (599.59ng/ml), PT (15.1sec), Aptt (36.3 sec) and INR (1.11) was found . Weil felix, scrub typhus, widal and Mantoux test were negative. Blood culture was sterile. Chest XRAY (fig1.1) and CT neck(fig1.2) with Venogram showed bilateral IJV thrombosis with reactive lymphadenopathy. A haematology and CTVS consultation was sought in view of the CT chest findings .Consultants advocated to give Antibiotics and Anticoagulants such as Inj. Clindamycin, Inj.Cefotaxime, T.Azithromycin and Inj. Enoxaparin along with supportive measures. A paediatric cardiology consultation was sought and they made an impression of a thin rim of pericardial effusion suggestive of systemic inflammation and no other cardiac involvement or MIS-C related changes. Enoxaparin was stopped after 6 days as his facial edema subsided.Plan was made to do USG doppler after 3 weeks to look for resolution of the the thrombus. During his stay in hospital he had no further fever.After he became symptomatically better and hemodynamically stable and got discharged with oral antibiotics.

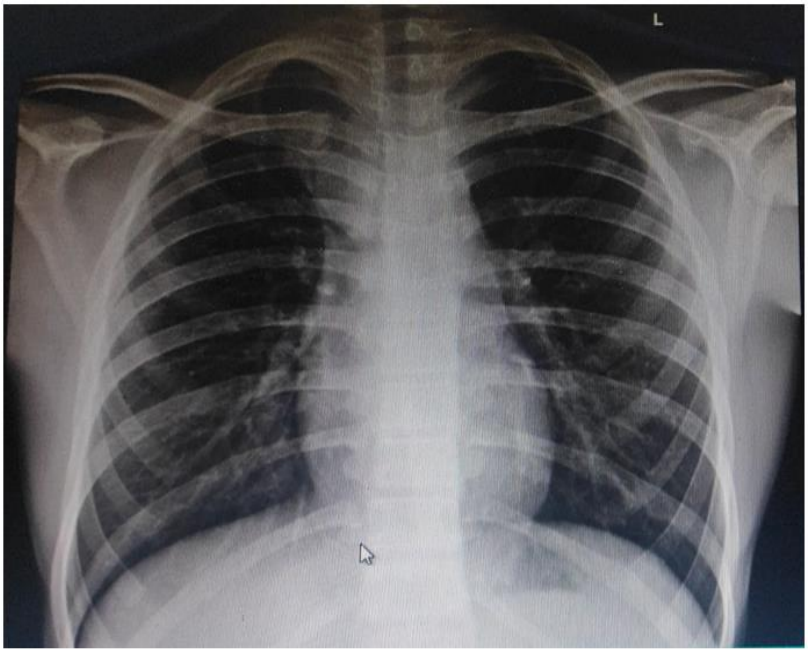

Figure 1.1: Chest X ray which shows Enlargement of Pulmonary Vein- Bilateral IJV Thrombosis

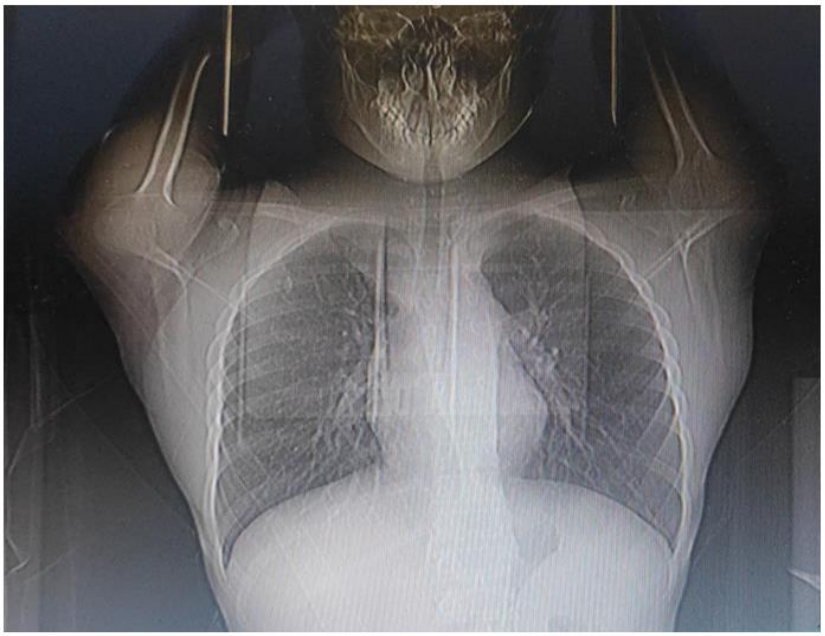

Figure 1.2: CT Neck and Chest which Reveals Bilateral IJV Thrombosis with Reactive Lymphadeno Pathy.

Discussion

Lemierre syndrome is an uncommon but potentially life threatening infection of the IJV. It is caused by F.Necrophorum, Bacteroides, Prevotella, Proteus, Streptococcus, Peptostreptococcus, Eikenella, Porphyromonas and Staphylococcus aureus.The infection usually begins in the tonsils and progress into the pharynx containing the IJV though causing septic thrombophlebitis though infection originated from pharynx, middle ear, sinus and parotid gland[2].

A study conducted by Johannesen KM and Pryor J et al reported that common symptoms include sepsis, pain, and/or swelling in the throat or neck, as well as respiratory symptoms[1,5] ,in our case, patient is presented with complaints of of fever for 40 days and facial puffiness with bilateral conjunctival congestion, bilateral neck swelling for one week duration.

The diagnosis of Lemierres syndrome includes clinical history, physical examination, CRP, ESR,D-Dimer, presence of thrombus in IJV and imaging studies include Chest Xray, CT and MRI.Computed tomography (CT) scans are cheaper and available in most hospitals, but it involves radiation exposure. The vast majority of cases (95%) with thrombophlebitis of the internal jugular vein were diagnosed by CT scans. Ultrasonography was used in the remaining cases, but none used MRI[1,2,5]which is almost similar to our study.

Guidelines for treatment of Lemierre syndrome include antibiotics, surgical drainage of collections, and blood thinners.Antibiotic therapy is essential and should be selected on basis of culture and sensitivity reports.Penicillin, carbapenem or piperacillin/tazobactam and/or in combination with metronidazole is also effective.The duration of treatment is not established, but 2 weeks of intravenous antibiotics with four to six weeks is sufficient [2,4] But our patient was treated with intravenous and oral antibiotics (Inj.Clindamycin, Inj.Cefotaxime, T. Azithromycin), intravenous

anticoagulant (Inj.Enoxaparin) and other supportive measure.

Conclusion

Here we report a case of a 13-year-old boy who presented with complaints of fever and facial swelling. It is a rare, critical and devastating disease, the paediatrician should be very vigilant to understand it. In our case, the patient has a history of bacterial infection, however now his blood culture is sterile with abnormalities in clotting and inflammatory factors, so well-timed recognition of disease progression is essential in preventing extreme systemic manifestations. To avoid diagnostic delays, early use of CT/ultrasound of the neck and chest is recommended. The treatment with empirical broad-spectrum antibiotics should not be delayed and must continually encompass a third-generation cephalosporin. Finally, we recommend using anticoagulants in subjects with confirmed jugular thrombosis to accelerate healing in these patients.

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Abbreviation

1. CT - Computed tomography
2. CTVS -cardiothoracic and vascular surgery
3. IJV-internal jugular vein
4. MIS-C-Multisystem inflammatory syndrome in children