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Tuberculosis causing Superior Vena Cava Obstruction - A Case Report.

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ABSTRACT

Superior Vena Cava (SVC) obstruction is a rare but serious medical condition characterized by the blockage of the second largest vein in the human body, leading to various symptoms including swelling in the upper body, shortness of breath, and dizziness. Causes of SVC obstruction range from malignancies such as lymphoma and breast cancer to infectious diseases like tuberculosis, along with other factors like blood clots and constrictive pericarditis. Diagnosis typically involves clinical examination and imaging studies like MRI, CT, and venography. A proposed classification system categorizes symptoms into hemodynamic, respiratory, and neurological manifestations, aiding in treatment urgency determination. Management focuses on relieving the blockage and addressing the underlying cause, which may include antibiotics, anticoagulants, chemotherapy, or radiotherapy. We present a case study of a 40-year-old male with neck pain and dizziness, ultimately diagnosed with sub-acute thrombosis of the internal jugular veins leading to SVC compression, potentially due to tuberculosis. This case underscores the importance of considering tuberculosis as a differential diagnosis, particularly in endemic regions, facilitating timely and appropriate treatment interventions.

CASE REPORT

2024, www.medrech.com

INTRODUCTION:

Superior Vena Cava is the second largest vein in the human body. Obstruction of the Superior Vena Cava is a rare but serious medical condition. It returns blood from upper body to heart, when it is blocked, it can cause swelling in the upper body, shortness of breath and other symptoms.

CAUSES MAY INCLUDE

Lymphoma.

Breast cancers, metastatic lung diseases.

Tuberculosis or Mediastinal growths.

It can also be caused by blood clots, Aortic aneurysms, Constrictive Pericarditis or thrombophlebitis.

People with Cancer and implanted medical devices are at higher risk of developing Superior Vena Caval Obstruction.

SYMPTOMS: May include:

Dizziness. Headache Erythema of face and palms.

Vision changes. Sensation of fullness in head and ears or fainting.

Other symptoms may also include shortness of breath, Cyanosis, coughing up blood, dysphagia and swelling of the veins in the upper body.

INVESTIGATIONS:

Most cases can be diagnosed by a clinical exam alone, but several diagnostic tests and procedures can be helpful. When a patient presented with suspected diagnosis of Superior Vena Cava Obstruction, the first step is to obtain an imaging study that confirms the diagnosis and aids treatment decisions.

- MRI Contrast enhanced CT, Radionuclide flow studies and traditional venography are all appropriate techniques.
- Ct of the chest with the presence of collateral vessels is associated with a diagnostic sensitivity of 96% and specificity of 92%.
- Venography is widely accepted as the Gold Standard for visualizing and diagnosing a venous obstruction.

PROPOSED

CLASSIFICATION

SYSTEM: The severity of symptoms can help guide the urgency of intervention for which a classification system has been proposed dividing the symptoms into

- A) Hemodynamic Symptoms: Facial edema, Arm edema, Neck Veins Distension, Chest veins Distension, Facial Plethora and Visual symptoms
- B) Respiratory Symptoms: Dyspnea, Cough, Horaseness and Stridor
- C) Neurological Symptoms: Syncope, Confusion, Headache, Dizziness, Obtundation and Cerebrovascular accidents)

The scheme of grading can be based on Common Terminology Criteria for Adverse Events, but the aforementioned pattern brings into encircles the various symptoms of Superior Vena Cava Obstruction.

MANAGEMENT:

It focuses on the relief of blockage as well as diagnosing and managing the causative etiology.

- Antibiotics in case indicated for infection.
- Anti-coagulants to break up a blood clot.
- Chemotherapy and Radiotherapy as needed for management of Cancer.

CASE:

Presentation: 40 years old gentleman presented in Emergency department with Right sided neck pain, radiating to shoulder. Pain severity was reported to be mild to moderate, duration over 2 days, associated with sensation of dizziness and heaviness in the head aggravated by flexion of neck.

Examination: Palpable Lymph Nodes along the parotid region, patient was aware, oriented, no shortness of breath reported. Chest clear. GCS 15/15. Abdominal exam was unremarkable.

Investigations: Ultrasound was done which showed SUB-ACUTE THROMBOSIS of Rt Internal Jugular Vein and PARTIAL SUB-ACUTE THROMBOSIS of Left Internal Jugular Vein causing sluggish flow.

Management: He was admitted under Pulmonary Consultant on call after Initial Anti-thrombotic management with Low Molecular Weight Heparin. CT Chest was done which showed compression at the level of Superior Vena Cava with Right Brachiocephalic vein being most prominently affected. The lung Parenchyma was unremarkable. A mediastinal Adenopathy was also found which showed enlargement as compared to CT Scan findings done in 2018. Possible causes Tuberculosis or Sarcoidosis but given the slow onset progression and symptoms Tuberculosis seems most likely for which further diagnostic investigations were planned. Pt has had diagnosis of Sarcoidosis earlier for which no further management was imparted. Sarcoidosis is a derangement of the immune system, it has been associated with hypercoagulation and malignant diseases. Tuberculosis which was kept as the second differential diagnosis is also known to be associated with SVC syndrome. If the biopsy revealed chronic granulomatous inflammation and central cases necrosis

consistent with Tuberculosis, it would have been the cause in the patient. Additional studies for PanCK, CD30 and IgG4 were done to rule out sclerosing Carcinoma (as Cancers are still considered the most common cause of SVC syndrome) or Lymphoma which were negative in the patient.

DISCUSSION:

Any patient presenting in clinical setting with neck pain, worsened on flexion and, swelling in the upper half of the body, feeling of fullness in head needs to be evaluated for Superior Vena Cava obstruction. This is the second largest vein in the body. Obstruction can occur due to multiple reasons and Cancers, Tuberculosis, Sarcoidosis, Aneurysms and Coagulation disorders could be one of the many causes and each needs to be ruled out as per the clinical condition, severity and other risk factors involved within a particular patient. Treatment of the cause, as per the results of the diagnostic investigations is mainstay of the management.

CONCLUSION:

It has been estimated that Malignant tumors account for almost 60% cases of the Superior Vena Cava obstruction, followed by iatrogenic causes either stenosis or thrombosis due to procedures like catheter insertions or central lines. But in people belonging to domiciled areas of Tuberculosis endemics, Tuberculosis should be kept as one of the important differentials for appropriate investigations and diagnosis, there by leading to accurate and prompt treatment.

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