Int. J Med. Pharm. Res.
P-ISSN: 2958-3675 | E-ISSN: 2958-3683
Available on: https://ijmpr.in/

International Journal
of Medical and Pharmaceutical Research

ORIGINAL ARTICLE **OPEN ACCESS**

A Diagnostic Dilemma in A B/L Pleural Effusion with Different Etiology- Contarini's Syndrome, A Rare Case Report

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Received: 11-06-2025
Accepted: 15-07-2025
Available Online: 26-07-2025

A B S T R A C T

Contarini's Syndrome is a rare clinical entity characterized by bilateral pleural effusions arising from different underlying etiologies. We report a case of an 80-year-old male presenting with dyspnea, cough, abdominal pain, and fever. Imaging and diagnostic thoracocentesis revealed a right-sided exudative pleural effusion due to bacterial empyema (Staphylococcus aureus) and a left-sided transudative effusion associated with hypoalbuminemia and chronic liver disease. The patient was managed with targeted antibiotics and therapeutic thoracocentesis. This case underscores the importance of considering bilateral thoracentesis in patients with atypical clinical or radiological findings and highlights the diagnostic value of Hickam's dictum in differentiating dual pathologies. Recognition of Contarini's syndrome is essential to avoid misdiagnosis and ensure appropriate treatment.

Keywords: Bilateral pleural effusions, Contarini syndrome.

INTRUDUCTION

Contarini's Syndrome: A Rare Case of Bilateral Pleural Effusion with Different Aetiologies. Bilateral pleural effusions typically share the same characteristics and underlying cause. However, Contarini's syndrome refers to the unusual occurrence of bilateral pleural effusions with distinct aetiologies on each side. A literature review reveals only a few reported cases where one effusion is exudative and the other transudative, such as malignancy with heart failure or parapneumonic effusion with liver cirrhosis. Here, we present a rare case of bilateral pleural effusions—left transudative and right exudative. This case highlights the importance of performing bilateral thoracentesis in patients with clinical suspicion of differing causes, especially when radiological features suggest alternate diagnoses.

CASE HISTORY: A 80 year, male, presented with dyspnoea, cough with expectoration, pain abdomen, fever, since 3 days. Patient was admitted and evaluated. On examination hypoxemia (spo2-90% with room air), tachycardia (PR-112bpm), hypotension (bp-102/62mmhg). Respiratory System -B/L Decreased intensity of Breath Sounds.

INVESTIGATIONS: Relevant investigations were sent CXR s/o B/L blunting of cp angles (figure no 1). With homogeneous opacity over the right lower zone. USG thorax s/o B/L pleural effusion, left -500 cc and right- 100 cc with basal consolidation. Diagnostic thoracocentesis was done on right side (figure no 2), fluid was turbid yellow in colour, analysis were sent s/o exudative aetiology.? Bacterial empyema. And gene Xpert was negative for Mycobacterium tuberculosis, sent for culture & sensitivity came out to be staph aureus sensitive to routine antibiotics. CECT thorax s/o large thin fibro- cavitatory lesion with air fluid levels involving RML and RLL (figure no 3) - infected pneumatocele with underlying lung consolidation.

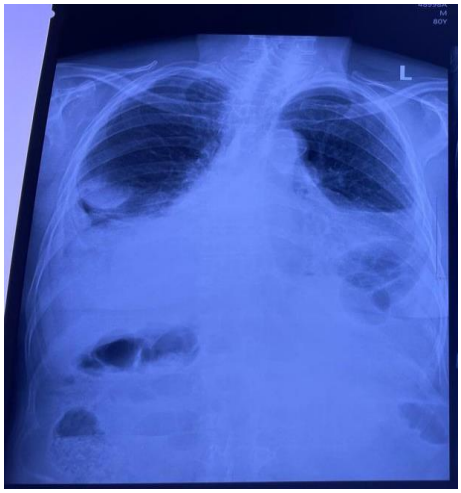

Figure 1

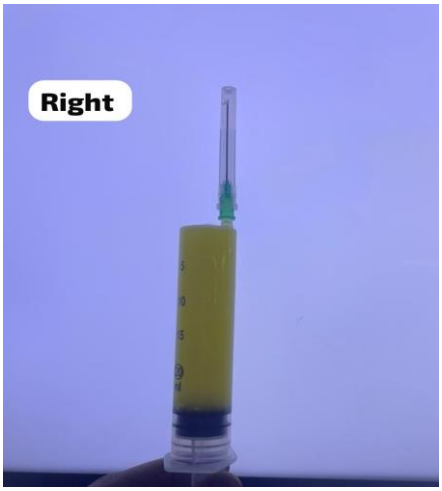

Figure 2

RESULTS AND TREATMENT:

Relevant antibiotics were given and on left side therapeutic thoracocentesis was done 300 cc of pale yellow colour fluid was drained (figure no 4). And sent for the Analysis it was transudative in aetiology, both sides negative for malignant cells. Surgical opinion was taken i/v/o pain abdomen and patient is active alcoholic with deranged LFT (raised bilirubin and ALP, GGT) and advised symptomatic management. His blood investigations showed leucocytosis, and reduced serum protein, serum LDH -246, rest of the investigations were unremarkable. ECG & 2D Echo was normal. The patient was diagnosed with Contarini's syndrome, as he had bilateral pleural effusions with distinct aetiologies—hypoalbuminemia-related effusion on the left side and parapneumonic pleural effusion on the right side. thoracentesis was performed on the left side to relieve symptoms.

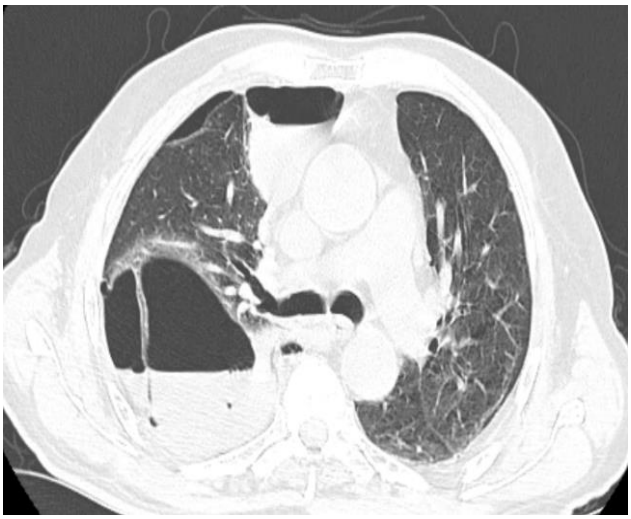

Figure 3

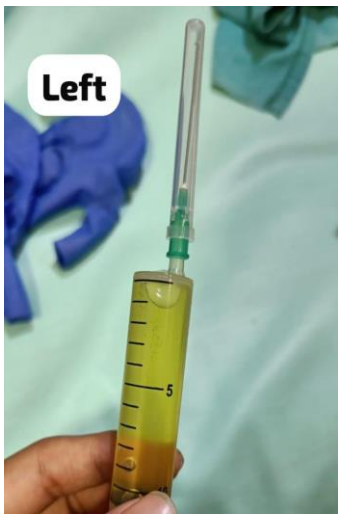

Figure 4

DISCUSSION:

Contarini syndrome is an uncommon clinical condition characterized by bilateral pleural effusions (BPE) due to two different underlying causes. Though rare, recognizing this syndrome is essential to avoid misdiagnosis and guide appropriate treatment.

Common Causes of Pleural Effusion-Nearly 90% of pleural effusions are attributed to: Congestive heart failure (CHF), Infections, Malignancy, Pulmonary embolism. In Contarini syndrome, each pleural effusion arises from a distinct aetiology, making it unique.

Historical Background-Named after Francesco Contarini[1], the 95th Doge of Venice. At autopsy, he was found to have a right-sided hydrothorax due to CHF and a left-sided empyema—the earliest known case fitting this syndrome. **Prevalence and Reported Cases** - Occurs in approximately: 0.9% of 546 patients with bilateral effusions. 5.6% in a smaller

prospective cohort of 36 patients. By 2012, only 12 cases had been reported globally[2]. First reported Indian case (2004) involved: A 23-year-old HIV-positive male smoker, Right-sided staphylococcal empyema with Left-sided tubercular effusion[4].

Clinical Relevance: The Case for Bilateral Thoracentesis, Relying solely on unilateral thoracentesis risks missing dual pathologies.
Ferreiro et al[3]. outlined when bilateral thoracentesis should be considered:

1. Unusual features (e.g., fever or pleuritic chest pain in CHF).
2. Unilateral lung findings on imaging.
3. Asymmetrical effusion sizes.
4. Different CT attenuation values (Hounsfield units) between sides.
5. Resolution of one effusion, while the other persists.

Diagnostic Approach: Hickam's Dictum - Contrasts with Occam's razor by stating:
"A patient can have as many diseases as they please." Reinforces the importance of considering multiple simultaneous diagnoses, especially when clinical features are discordant. Bilateral thoracentesis should be strongly considered when suspicion arises—balancing the benefits against procedural risks on a case-by-case basis. Though Contarini syndrome is rare, it is likely underdiagnosed due to assumptions of a single aetiology in bilateral effusions. A high index of suspicion and selective bilateral thoracentesis are essential for accurate diagnosis and management.

CONCLUSION:

Contarini syndrome, though rare, serves as a crucial reminder for clinicians to maintain a high index of suspicion when evaluating bilateral pleural effusions[5]. Rather than assuming a uniform cause, it is essential to consider multiple aetiologies, especially in cases with asymmetrical fluid accumulation, differing imaging characteristics, or atypical clinical presentations. A comprehensive diagnostic approach, including bilateral thoracentesis when warranted, is vital to ensure an accurate diagnosis and optimal management.

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