

# Shoulder Pain May Be One Heartbeat Away From Disaster

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## Background

- A **pericardial effusion** is the accumulation of fluid in the pericardial sac which surrounds the heart.
- Pericardial effusions are typically presented as shortness of breath, chest pain, and malaise.
- The patient history is important in diagnosing a pericardial effusion. One must inquire about recent illness, malignancy, autoimmune disorders, and congestive heart failure among others. The feared consequence of pericardial effusion is a life-threatening cardiac tamponade.
- Etiologies of pericardial effusions:
  - **Inflammatory Causes:** autoimmune disease, infectious, neoplastic
  - **Non-inflammatory Causes:** trauma, post myocardial-infarction, vascular disease, chronic kidney disease, congestive heart failure, liver cirrhosis, hypothyroidism, drug induced, radiation therapy, and idiopathic causes.

## Case Presentation

This is a case of a 53 year old female who presented with a chief complaint of chronic right shoulder pain radiating to her neck long with chest muscle soreness that was exacerbated with strenuous activity.

**PMH:** cervical radiculopathy

**First Office Visit:** patient's history and physical exam was consistent with muscle strain and muscle soreness. She was prescribed topical NSAID and referred to physical therapy.

From the time of her first clinic visit to present day, she had visited the emergency department on three separate occasions. On one of the earlier visits to the emergency department, the patient received a chest x-ray followed by a chest CT after complaining of neck, shoulder, and right sided chest pain.

**Chest X-ray:** mild prominence of the cardiac silhouette

**Chest CT:** mild to moderate pericardial effusion.

**Diagnosis:** pericarditis with pericardial effusion

**Treatment:** high dose ibuprofen and colchicine

**Outcomes:** after a few weeks of treatment, patients shoulder pain had completely resolved.

**Additional Findings:** Patient found to have a positive **Antinuclear Antibody**, positive **Double Stranded DNA Antibody**, and significantly elevated **erythrocyte sedimentation rate**. She has since been referred to rheumatology where she will undergo further workup for inflammatory and autoimmune disease including lupus.

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## Images

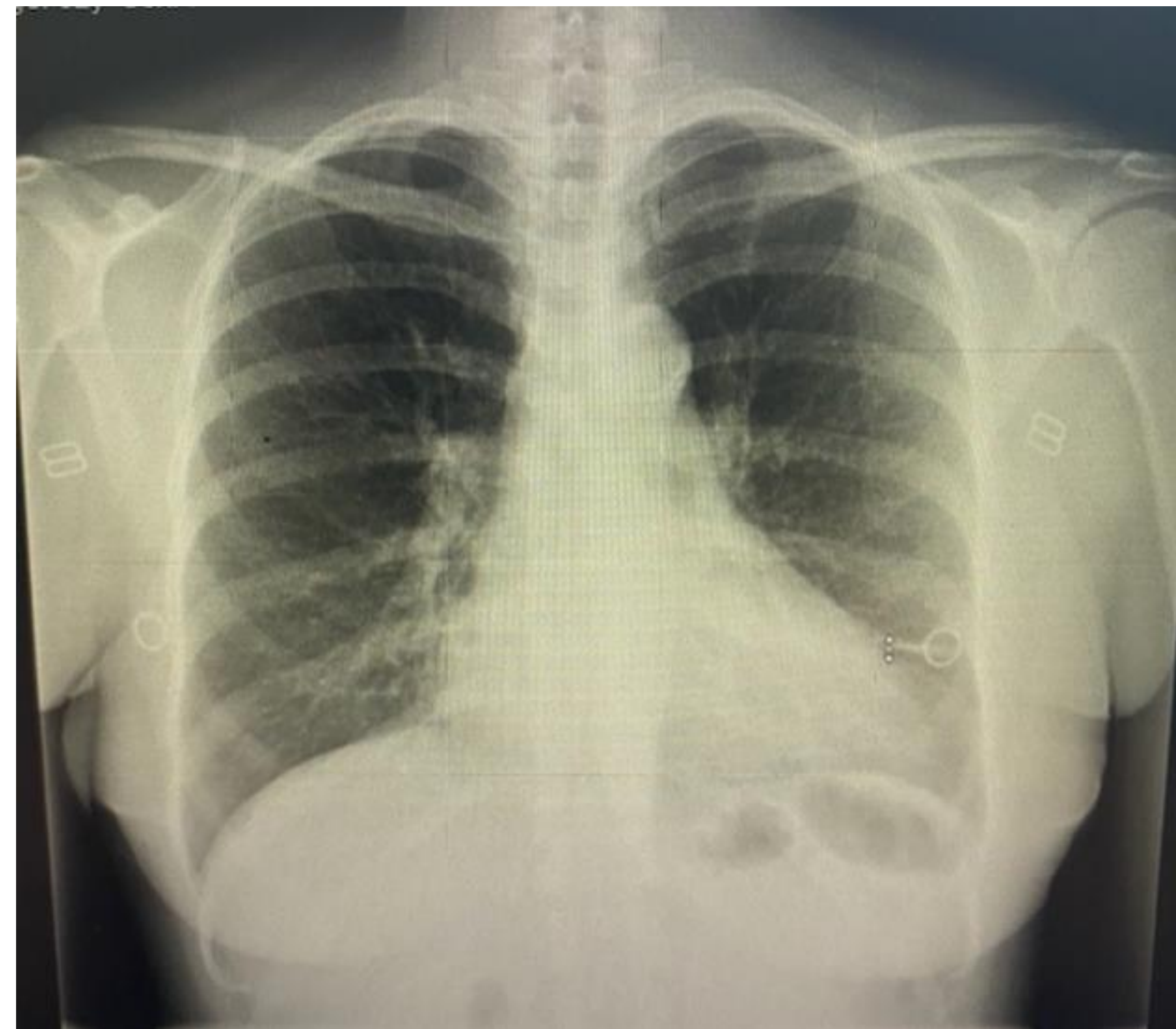


Figure 1: Chest X-ray showing mild prominence of the cardiac silhouette

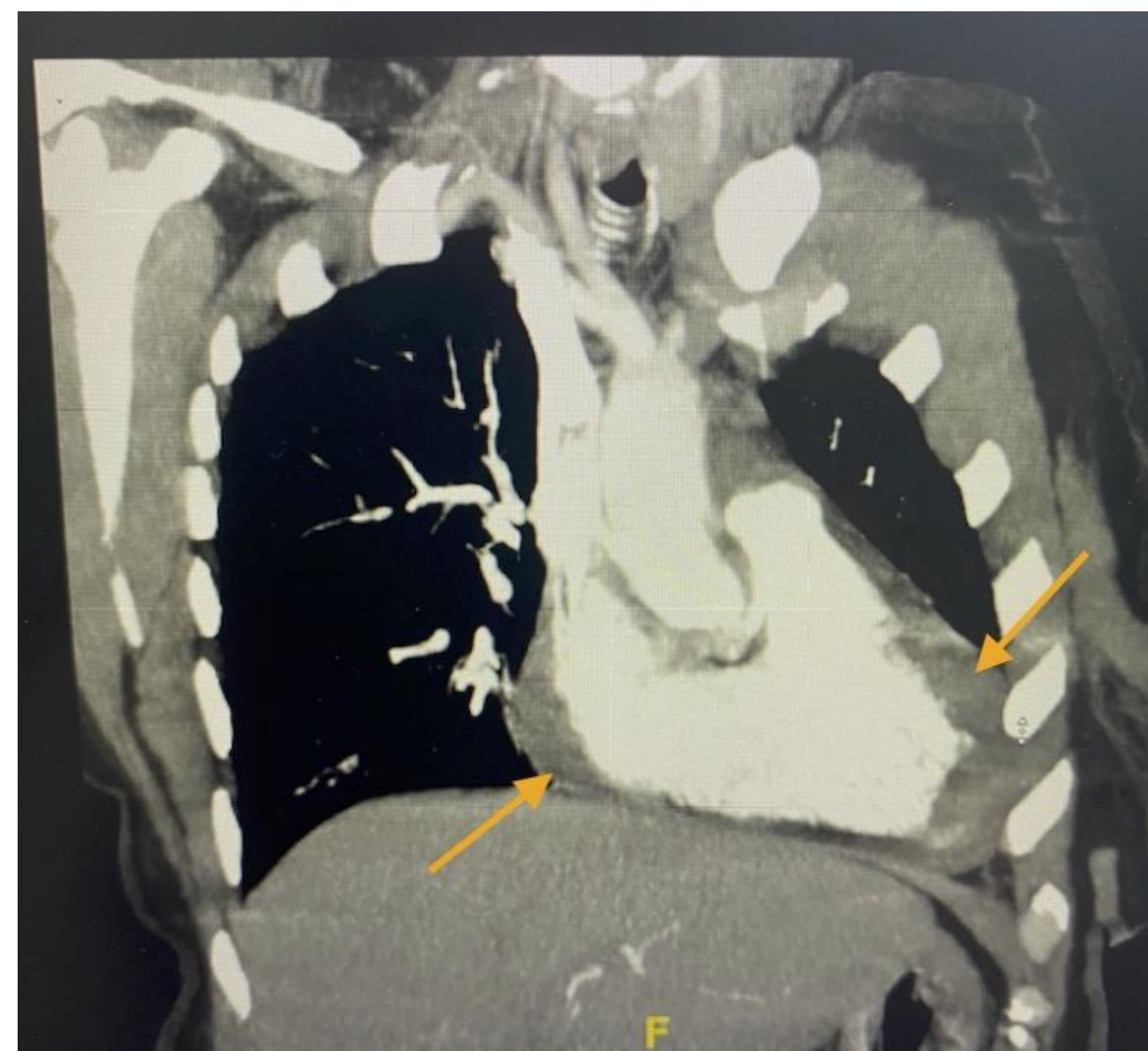


Figure 2: Chest CT (arrows) showing mild to moderate pericardial effusion

## Discussion

- Pericardial effusions can present with a variety of symptoms and may be difficult to clinically diagnose for these reasons.
- Occasionally, a pericardial effusion presents as musculoskeletal pain as seen in this patient.
- Our patient had no significant medical history or known background that would contribute to the diagnosis of pericardial effusion.
- It has since been discovered that her positive autoimmune antibodies may be a contributing factor of her diagnosis.
- With proper treatment, this patient's symptoms of shoulder pain completely resolved.
- Pericardial effusions must be recognized and treated promptly to avoid potential catastrophic outcomes such as cardiac tamponade.

## Conclusion

- When a patient presents with an assumed musculoskeletal complaint, it is important to remain open minded to other possible diagnoses.
- As physicians we must always be looking at the patient as a whole and not merely their presenting symptoms.
- The next time a patient presents to the office with shoulder pain, we will certainly have cardiac etiologies in the back of our minds.

## References

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