International Journal of Medical and Health Research
www.medicalsciencejournal.com
ISSN: 2454-9142
Received: 26-02-2026, Accepted: 29-03-2026, Published: 13-04-2026
Volume 12, Issue 2, 2026, Page No. 4-5

Recurrent unexplained syncope in a 55-year-old male with Post-Tuberculosis sequelae and intermittent atrial arrhythmia: A diagnostic challenge

Dr. Rajendra Tatu Nanavare[1*], Dr. Pradeepkumar Kapsikar[2]
[1] Department of Medical, Faculty of Diploma in Chest and Tuberculosis, Group of TB Hospital Sewri Mumbai, Tropical Medicine in College of Physician and Surgeon CPS Mumbai, Maharashtra, India
[2] Medical Officer, Department of Medical, Group of TB Hospital Sewri Mumbai, Maharashtra, India
Corresponding Author: Dr. Rajendra Tatu Nanavare

Abstract
Background: Syncope is a transient loss of consciousness due to global cerebral hypoperfusion and represents a diagnostic challenge due to its heterogeneous etiology [1]. Post-tuberculosis (post-TB) lung sequelae may coexist with systemic manifestations, complicating clinical interpretation [2].
Case Presentation: A 55-year-old male with no comorbidities presented with recurrent syncopal episodes (>4 episodes over 3 years), occurring suddenly without prodrome. He had a history of pulmonary tuberculosis treated 20 years earlier with a complete 8-month EHRZ regimen. Chest X-ray (PA view) showed a small fibrotic shadow in the left upper zone. HRCT chest demonstrated fibrotic opacities in the left upper lobe without active disease. Holter monitoring revealed sinus rhythm with intermittent atrial tachycardia and one short episode of atrial fibrillation. No pauses or significant ventricular arrhythmias were noted.
Discussion: The absence of sustained arrhythmia or structural cardiac abnormality suggests a probable diagnosis of neurally mediated syncope. Intermittent atrial arrhythmias indicate an underlying arrhythmogenic substrate but are unlikely to explain syncope in isolation [3].
Conclusion: This case highlights the importance of extended cardiac monitoring and autonomic evaluation in unexplained syncope, particularly in patients with incidental arrhythmias and post-TB sequelae.

Keywords: Syncope, post-tuberculosis sequelae, atrial fibrillation, vasovagal syncope, holter monitoring

Introduction
Syncope accounts for 1–3% of emergency visits and up to 6% of hospital admissions worldwide [1]. It is defined as a sudden, transient loss of consciousness with spontaneous recovery due to global cerebral hypoperfusion.
The major categories include reflex syncope, cardiac syncope, and orthostatic hypotension [4]. Cardiac syncope is associated with increased mortality and requires prompt evaluation [5].
Pulmonary tuberculosis remains a significant public health problem, particularly in developing countries. Even after successful treatment, many patients develop structural lung abnormalities known as post-TB lung disease [2]. These changes may influence cardiopulmonary physiology and autonomic balance.

Historical Background
The classification of syncope evolved significantly in the late 20th century with improved understanding of autonomic and cardiac mechanisms [6]. Tuberculosis, historically known as "phthisis," has long been associated with chronic pulmonary damage even after microbiological cure [7].

Epidemiology
Syncope has a lifetime prevalence of approximately 35% in the general population [8]. Vasovagal syncope accounts for 40–60% of cases [4], while cardiac syncope contributes to 10–20% but carries a higher mortality risk [5]. Post-TB lung disease is reported in 20–50% of treated patients [2].

Case Presentation
Patient Profile
- 55-year-old male
- No diabetes, hypertension, or known cardiac disease

Past History
- Pulmonary tuberculosis 20 years prior
- Treated with EHRZ regimen for 8 months
- No recurrence

Presenting Complaints
- Recurrent syncopal episodes (>4 episodes over 3 years)
- Sudden onset without prodrome
- No associated palpitations, chest pain, or neurological deficit

Associated Findings
- Occasional blood-streaked sputum (post-TB sequelae)

Radiological Evaluation
Chest X-ray (PA View)
- Small fibrotic shadow in the left upper zone Suggestive of healed pulmonary tuberculosis [7]

HRCT Chest
- Few fibrotic opacities in the left upper lobe
- Dependent basal densities bilaterally
- No ground-glass opacities or consolidation
- No lymphadenopathy or pleural effusion

Consistent with stable post-TB sequelae [2]

Cardiac Evaluation

Holter monitoring (May 2025 and April 2026) revealed:

- Predominant sinus rhythm
- One short episode of atrial fibrillation (2025)
- Short runs of supraventricular tachycardia
- No pauses >2.2 seconds
- Minimal ventricular ectopy

Symptoms recorded were associated with sinus rhythm.

Pathophysiology

Syncope results from transient cerebral hypoperfusion due to reduced cardiac output or systemic vasodilation [1].

Atrial arrhythmias such as atrial fibrillation may lead to hemodynamic instability, but short non-sustained episodes are rarely sufficient to cause syncope [3].

Post-TB fibrosis may alter pulmonary vascular resistance and autonomic tone, although its direct role in syncope is limited [2, 9].

Diagnostic Assessment

Differential Diagnosis

1. Neurally mediated (vasovagal) syncope
2. Arrhythmia-related syncope
3. Orthostatic hypotension
4. Neurogenic causes

Results

Investigation	Finding	Interpretation
X-ray chest	Left upper zone fibrosis	Healed TB
HRCT	Fibrotic changes	Stable disease
Holter	AF + SVT	Intermittent arrhythmia
Pauses	None	No conduction abnormality
Symptom correlation	Absent	Non-arrhythmic

Discussion

This case highlights the complexity of evaluating syncope in patients with incidental arrhythmias. Although atrial fibrillation was documented, it was brief and not temporally related to syncopal episodes. Evidence suggests that short atrial arrhythmias are unlikely to cause syncope unless associated with sustained rapid ventricular response or structural heart disease [3].

The absence of pauses or ventricular arrhythmias reduces the likelihood of cardiac syncope [5]. The lack of prodrome, although atypical, does not exclude vasovagal syncope.

Post-TB sequelae were stable and not contributory to syncope, although chronic lung disease may influence autonomic regulation [2, 9].

Management

- Hydration and lifestyle modification
- Consider beta-blocker if symptomatic arrhythmia
- Tilt Table Test for confirmation of reflex syncope
- Implantable loop recorder if recurrent unexplained episodes

Preventive Measures

- Avoid dehydration
- Gradual positional changes
- Regular follow-up

Way Forward

- Long-term rhythm monitoring
- Autonomic function assessment
- Surveillance for progression of atrial fibrillation

Key Messages

1. Syncope evaluation must be systematic and multidisciplinary
2. Short episodes of AF do not necessarily explain syncope
3. Holter monitoring may miss intermittent arrhythmias
4. Tilt Table Test is essential in unexplained syncope
5. Post-TB sequelae should be interpreted cautiously

References

1. Kapoor WN. Syncope. N Engl J Med.2000:343:1856–62.
2. Allwood BW, *et al*. Post-tuberculosis lung disease. Lancet Respir Med,2020:8:737–46.
3. Soteriades ES, *et al*. Arrhythmias and syncope. Circulation,2002:105:257–62.
4. Brignole M, *et al*. ESC Guidelines for syncope. Eur Heart J,2018:39:1883–948.
5. Shen WK, *et al*. ACC/AHA/HRS Guideline for syncope. Circulation,2017:136:e60–122.
6. Lewis DA. Historical perspectives of syncope. Heart,1997:78:521–23.
7. Toman K. Tuberculosis: Case detection and treatment. WHO, 2004.
8. Ganzeboom KS, *et al*. Lifetime prevalence of syncope. J Am Coll Cardiol,2006:47:597–603.
9. Ravimohan S, *et al*. Long-term morbidity after TB. Clin Infect Dis,2018:66:138–45.