

Unveiling the Silent Voice: A Rare Case of Speech Disorder in Acute Rheumatic Fever without Structural Damage

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Abstract

Aphonia is a condition that renders an individual incapable of producing sounds. Based on JONES CRITERIA and imaging studies, a conclusive diagnosis of this condition was made in a 13-year-old patient suffering from acute rheumatic fever. The patient exhibited symptoms of chorea, low-grade fever, and aphonia.

Keywords: Aphonia, Sydenham Chorea, Acute Rheumatic Fever

1. Introduction

Aphonia is the extreme form of a functional voice disorder. Many authors indicate the significance of voice as a mirror of personality and expression of human nature and advocate a holistic approach for assessing and treating voice disorders [1]. Voice disorder (VD) may be defined as a disturbance of vocal behavior presenting with either aphonia or dysphonia without any structural laryngeal lesion or neurological disease to explain the disorders [2]. Voice disorders are caused by insufficient or improper use of the larynx and diaphragm without any identifiable physical, structural abnormality, or neurological dysfunction [3]. Acute rheumatic fever (ARF) results from a complex interaction between group A streptococcus (GAS) and a susceptible host a stage set by environmental factors. This process commonly affects the joints and heart [4]. We present a case of aphonia reported in a 13-year-old child with a clinical presentation of acute rheumatic fever.

2. History of Presentation

A 13-year-old Muslim boy living in Badin, Sindh, suffered from involuntary movements throughout his limbs for approximately two months, followed by a 15-days loss of voice. The presence of chorea, positive milkmaid and serpentine tongue signs,

erythema marginatum, cardiac involvement with a holosystolic murmur, moderate mitral regurgitation, and laboratory evidence of systemic inflammation support the diagnosis of acute rheumatic fever. It's important to document the clinical features and management of aphonia in this case. The boy had no prior history of such incidents, and his developmental milestones were on track. Additionally, there was no significant family history related to this condition. Although laryngoscopy did not reveal any significant structural abnormalities, the inaudible voice is an additional manifestation of the disease.

2.1. Investigations

CBC report showed a slight increase in TLC count, elevated ESR and CRP levels, and increased ASO titer. Echo report indicated Mitral regurgitation, suggesting acute rheumatic fever. CT and MRI brain scans showed no abnormalities. Inconclusive laryngoscopy results with non-significant findings

2.2. Management

Upon confirming the diagnosis of acute rheumatic fever with associated aphonia, the patient was initiated on a comprehensive treatment plan as shown in Figure 2

Table 7. Revised Jones Criteria	
A. For all patient populations with evidence of preceding GAS infection	
Diagnosis: initial ARF	2 Major manifestations or 1 major plus 2 minor manifestations
Diagnosis: recurrent ARF	2 Major or 1 major and 2 minor or 3 minor
B. Major criteria	
Low-risk populations*	Moderate- and high-risk populations
Carditis† • Clinical and/or subclinical	Carditis • Clinical and/or subclinical
Arthritis • Polyarthritis only	Arthritis • Monoarthritis or polyarthritis • Polyarthralgia‡
Chorea	Chorea
<small>doi:10.1161/CIRC.000000000000205</small> <small>1937</small>	
2023 Revision of the Jones Criteria for the Diagnosis of Acute Rheumatic Fever in the Era of Doppler Echocardiography Circulation	
Erythema marginatum	Erythema marginatum
Subcutaneous nodules	Subcutaneous nodules
C. Minor criteria	
Low-risk populations*	Moderate- and high-risk populations
Polyarthralgia	Monoarthralgia
Fever (≥38.5°C)	Fever (≥38°C)
ESR ≥60 mm in the first hour and/or CRP ≥3.0 mg/dL§	ESR ≥30 mm/h and/or CRP ≥3.0 mg/dL§
Prolonged PR interval, after accounting for age variability (unless carditis is a major criterion)	Prolonged PR interval, after accounting for age variability (unless carditis is a major criterion)
ARF indicates acute rheumatic fever; CRP, C-reactive protein; ESR, erythrocyte sedimentation	

Figure 1: Jones Criteria Cited from Revision of the Jones Criteria for the Diagnosis of Acute Rheumatic Fever in the Era of Doppler Echocardiography: A Scientific Statement from the American Heart Association

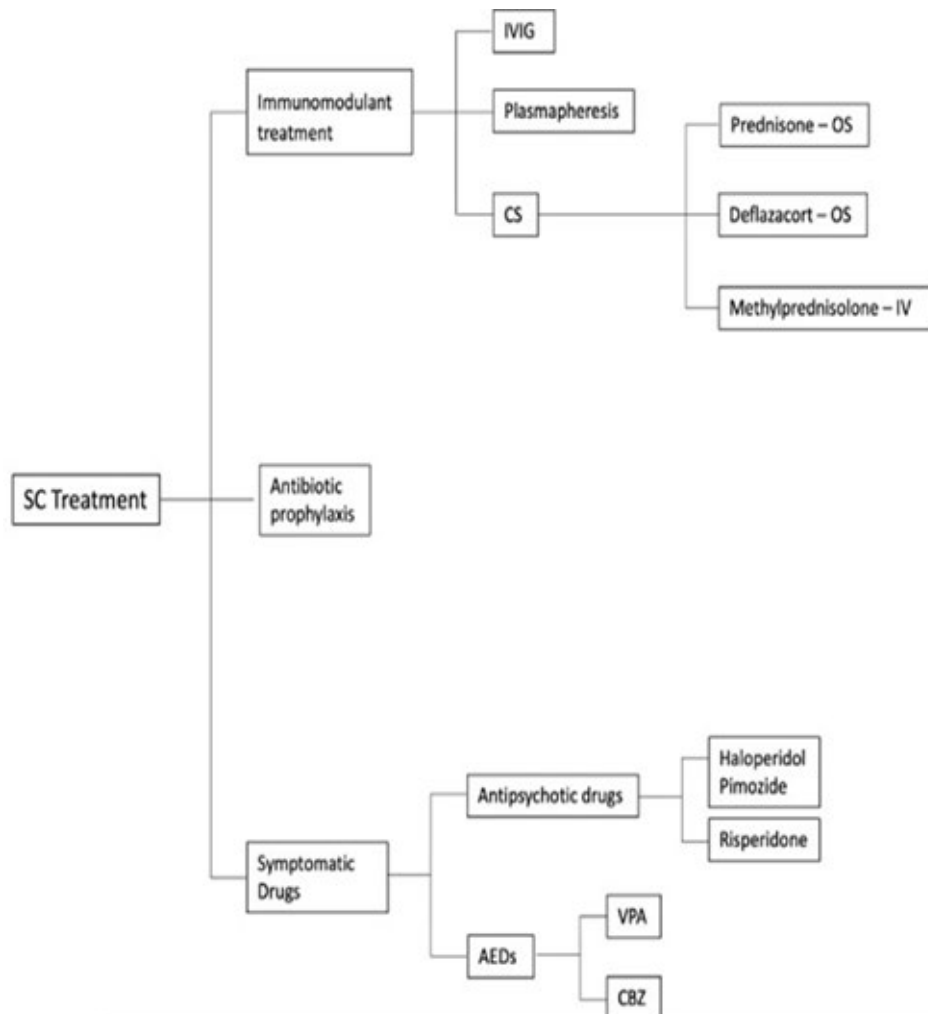


Figure 2: A Supporting Evidence on the Management of Acute Rheumatic Fever Cited from Therapeutic Aspects of Sydenham Chorea an Update

The patient received benzathine penicillin Syrup Epival (sodium valproate) Tab Serence (sertraline) and Tab Kempro (haloperidol)

3. Discussion

The most discriminative point in this case report is aphonia in the child presented with signs and symptoms of acute rheumatic fever, an infrequent case reported in the literature. Acute rheumatic fever continues to be a significant public health problem in developing nations [6]. A 13-year child who can speak but with an inaudible voice this condition is presented without an associated neurological injury and laryngeal structure damage; symptoms developed in a child after the onset of chorea, However, a rare association of acute rheumatic fever with speech was reported in Liaquat university civil hospital Jamshoro. Based on the clinical findings, laboratory results, and imaging studies, the diagnosis of acute rheumatic fever was made for our patient. The diagnosis was made using the REVISED JONES CRITERIA as shown in FIGURE 1 [7]. A patient must have at least two major criteria or one minor criterion to diagnose acute rheumatic fever. In our patient's case, chorea and mitral regurgitation as 2 major criteria have been met, leading to the diagnosis of acute rheumatic fever.

He's been discharged and prescribed benzathine penicillin I/M monthly, along with other medications, and advised follow-up in 15 days.

4. Clinical Conclusion

This case emphasizes that although rare, aphonia can be a symptom of acute rheumatic fever.

Ethical Statement

The authors of the case report claim to have adhered to ethical guidelines, but they did not seek approval from an IRB as it was a case report. However, they did obtain informed consent from the patient's parents.

Conflict of Interest

No conflict of interest has been declared by the authors of the case report.

Disclosures

The authors have nothing to disclose.

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