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Restoring Swallowing Freedom: A Triumph over Achalasia Cardia Type III – A Case Report

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Abstract

This case report explores the rare occurrence of achalasia cardia in a 24-year-old male in India, highlighting the unique challenges in diagnosis and treatment. The atypical demographic and the efficacy of laparoscopic Heller's myotomy with Dor's fundoplication underscore the importance of reporting such cases. The background reveals an unusual presentation of achalasia cardia in a 24-year-old male at Ahmedabad, Gujarat, India, justifying its documentation due to the infrequency of this condition in this age group. The case involves a patient with a one-month history of dysphagia, regurgitation, vomiting, weight loss, and weakness, confirmed as achalasia cardia type III. The individual underwent laparoscopic Heller's myotomy with Dor's fundoplication, resulting in a successful outcome, post-surgery stabilization, and discharge with appropriate medications. Conclusively, this report underscores the importance of identifying achalasia cardia in unconventional demographics, especially among young adults in India. The successful implementation of laparoscopic Heller's myotomy with Dor's fundoplication suggests its efficacy as a preferred treatment, offering perspectives on potential minimally invasive strategies and emphasizing the broader clinical impact of tailored interventions for esophageal motility disorders in specific populations. This contribution aims to raise awareness about diagnostic procedures and effective treatment approaches in achalasia cardia cases, contributing to an improved comprehension and management of this intricate esophageal disorder.

Keywords: Achalasia cardia, laproscopic Heller's myotomy, Dor's fundoplication, dysphagia, effectiveness, management

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INTRODUCTION

Oropharyngeal dysphagia stands out as a swallowing mystery in the complex terrain of esophageal disorders, frequently encountered in conditions including achalasia. Achalasia is an atypical syndrome that causes functional blockage at the esophageal junction due to the lower esophageal sphincter's inability to relax, resulting in reduced esophageal smooth muscle motility [1]. With an incidence of 0.5–1.2 cases per 100,000 cases annually and a morbidity rate of 1 per 100,000 people, it is an unusual esophageal disorder where the lower esophageal sphincter (LES) is unable to relax, resulting in dysphagia, the disorder's hallmark symptom [2]. Achalasia, documented for over 300 years, poses a pathophysiological enigma. A recent study suggests that the disorder may stem from the loss of inhibitory ganglion cells in the esophageal myenteric plexus, impacting neurons responsible for Vasoactive Intestinal Peptide (VIP)

and nitric oxide synthase, with unknown etiology despite hypotheses including autoimmune disorders, viral infections, and hereditary factors [3].

Unlike GERD, Achalasia, characterized by a tight esophageal sphincter and abnormal muscle contractions, presents with troublesome symptoms including difficulty swallowing, regurgitation, chest pain, heartburn, vomiting, coughing, and choking. In severe cases, these symptoms can lead to significant weight loss and fatigue. Moreover, there is a risk of life-threatening complications, such as pneumonia if ingested food enters the airways during coughing and choking episodes while eating. To guide treatment and assess the severity of the condition, categorization into three types of guides treatment, aiming to alleviate symptoms and improve overall well-being while preventing life-threatening complications.

- *Type 1:* [classic] in which the esophagus wall with low contractility.
- *Type 2:* Panesophageal pressurization occurs sporadically.
- *Type 3:* [Spastic] having premature or spastic contractions of the distal esophagus [4].

CASE REPORT

24-year-old male presented at GCS Hospital with a one-month history of dysphagia primarily with liquid food, regurgitation after heavy meals, and vomiting that had ceased a week prior. He had no known comorbid conditions like hypertension or diabetes. During the medical history interview, the patient disclosed experiencing weight loss and weakness over the past month and had undergone tests at an external hospital. He has also self-administered over the counter (OTC) medications for the same issue, but there was no significant improvement in his condition. Further diagnostic tests were advised at GCS hospital for the management of the case. Barium swallow X-rays (Figures 1 & 2) revealed fluid accumulation in the esophagus, upper esophageal dilation, and lower esophageal narrowing. Upper gastrointestinal endoscopy (Figure 3) detected resistance at the gastroesophageal junction. Esophageal manometry (Figure 4) demonstrated elevated basal Lower Esophageal Sphincter (LES) pressure, incomplete relaxation during swallowing, and a lack of esophageal peristalsis, indicating achalasia cardia, specifically classified as type III. Following the diagnostic tests and evaluation by a medical surgeon, the patient underwent laparoscopic Heller's myotomy with Dor's fundoplication procedures. Upon admission and throughout the hospital stay, the patient received various medications, including Inj. Ceftriaxone 1gm, Inj. Metronidazole 100cc, Inj. Pantoprazole 40mg, Inj. Diclofenac 2cc, Inj. DNS/RL.

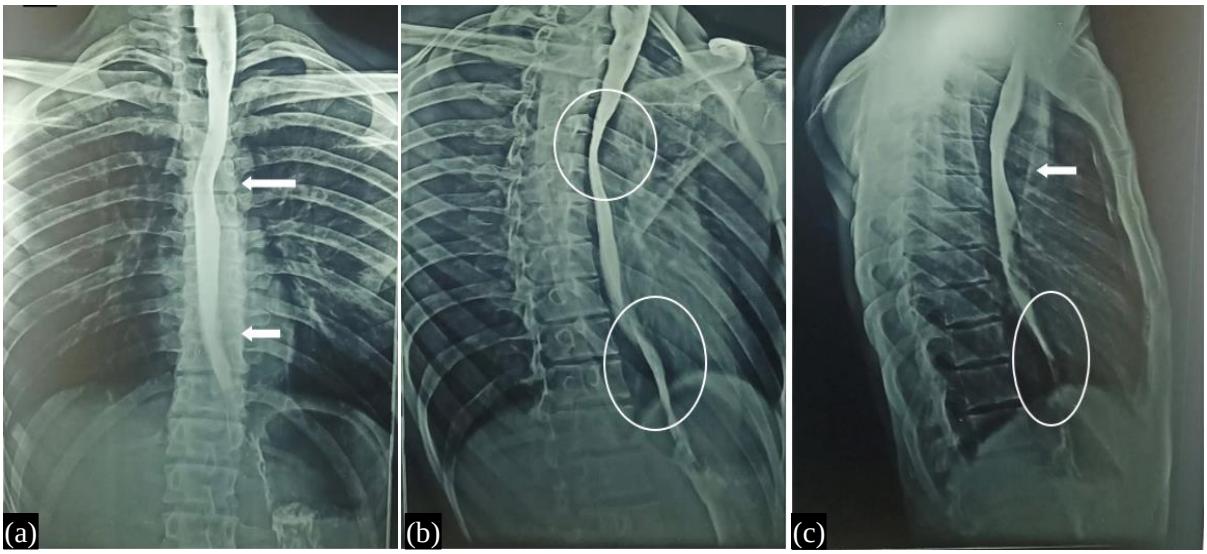

Figure 1. Barium swallow X-rays: Barium swallow studies show the fluid accumulation in the esophageal region with dilation of upper (24/07/23), (a) AP View, (b) Esophageal dilation and stricture (c) Lateral view.

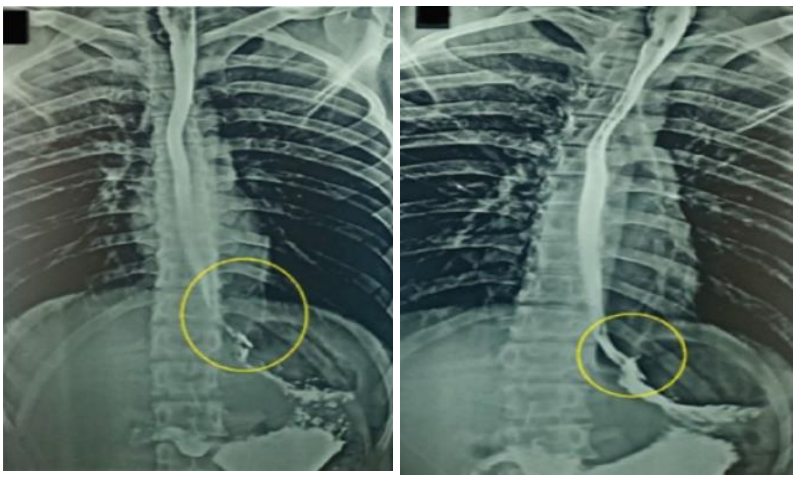

Figure 2. Barium swallow X-rays: PA view, contraction at the lower esophageal region (31/07/23).

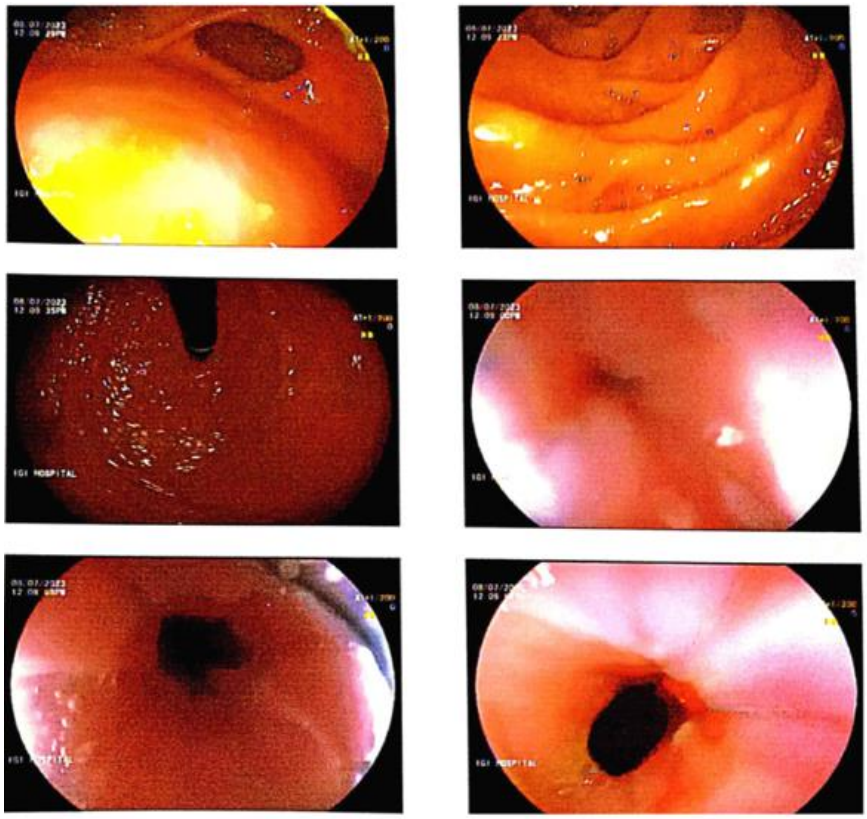

Figure 3. Upper GI Endoscopy cricopharynx, esophagus, fundus, body, antrum of the stomach and duodenal bulb shows normal mucosa. Resistance felt at gastroesophageal (GE) junction while passing the scope and mid fibrosis at antrum region felt.

After the surgical procedure, the patient remained stable and under medical monitoring for eight days. At the time of discharge the patient's vital signs were stable, and he was able to take medications orally. The discharge medications included Pantoprazole 40 mg (1-0-1), Diclofenac + Paracetamol (1-0-1), and cefadroxil 500 mg (1-0-1) for five days. The patient was found normal on scheduled follow-up appointment seven days after discharge. Hence, young male with symptoms of dysphagia, regurgitation, and vomiting, which were ultimately diagnosed as achalasia cardia type III. The patient underwent laparoscopic surgical intervention, which appeared to be successful, and he was discharged with appropriate medications and follow-up care.

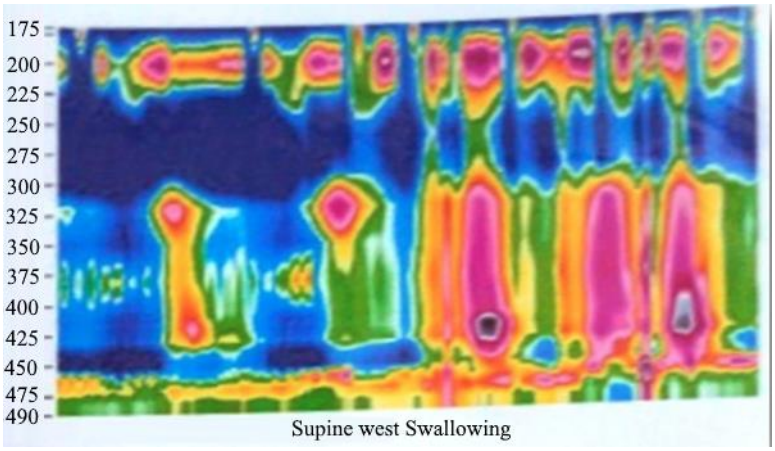

Figure 4. Esophageal Manometry study: It shows Basal LES pressure was high, relaxation was incomplete with swallowing. There was no mometeric evidence of Hiatus Hernia and esophageal peristalsis was absent. Therefore, diagnosed as ACHALSIA Type-III.

DISCUSSION

Achalasia cardia, an esophageal motility disorder, disrupts swallowing with absent peristaltic contraction and lower esophageal sphincter dysfunction. The patient displayed typical symptoms-dysphagia, regurgitation, belching, nocturnal coughing, heartburn, chest pain, pneumonia from food aspiration, and significant weight loss-aligning with established achalasia features. This case report underscores the disorder's clinical spectrum, emphasizing the importance of recognizing and managing achalasia promptly [3]. Achalasia cardia is a disease with unknown causes, marked by esophageal aperistalsis and impaired LES relaxation, stemming from the depletion of inhibitory nitrinergic neurons in the esophageal myenteric plexus. The etiology of achalasia cardia focuses on gastroesophageal junction obstruction, genetic variation (neuronal degeneration), viral infection and autoimmune like myenteric plexus inflammation, neuritis and ganglionitis, cell loss and fibrosis [5].

Achalasia diagnosis requires specific procedures to confirm and rule out other causes. The initial step is a barium swallow test, revealing key achalasia indicators like a dilated esophagus, and absence of peristalsis. Endoscopic examination rules out pseudoachalasia. High-resolution manometry (HRM) with 21 sensors assesses baseline measurements, relying on an IRP > 15 mmHg for impaired LES relaxation. HRM identifies subtypes, guiding treatment and predicting outcomes [6, 7]. In this case, barium swallow and endoscopic tests showed fluid accumulation, dilation, and resistance at the GE junction. Esophageal manometry revealed high basal LES pressure and incomplete relaxation with no peristaltic movement. The patient was identified as having achalasia cardia based on all the results.

The objective of treatment is to alleviate symptoms by eliminating outflow resistance in achalasia. Once esophageal obstruction is resolved, food can naturally traverse the peristaltic esophageal body due to gravity. Although proton pump inhibitors (PPIs), nitrates, and calcium channel blockers (CCBs) are frequently used to manage acid reflux, their effectiveness is only temporary. Conventional endoscopic procedures include sclerotherapy, pneumatic dilatation, and injections of botulinum toxin type A. The surgical alternatives include esophagectomy, stent insertion, laparoscopic Heller Myotomy (LHM), and peroral endoscopic myotomy (POEM). Gastroesophageal reflux disease (GERD), a common side effect of LHM, paired with either an anterior Dor fundoplication or a posterior Toupet fundoplication to prevent the damage caused by GERD [7, 8]. In this case, involving laparoscopic Heller's myotomy with Dor's fundoplication demonstrated restored swallowing after 7 days, with discharge on the 8th day and a follow-up scheduled for dressing and hygiene maintenance after 7 days.

This underscores the efficacy of myotomy as the preferred achalasia treatment, boasting a higher success rate compared to alternatives prone to failure or increased symptom recurrence, POEM should

be taken into consideration for patients hoping for less trauma and a quicker recovery as it has significant potential in the development of future minimally invasive treatment modalities for achalasia cardia. Non-surgical approaches remain viable for those averse to surgery [6, 9, 10].

CONCLUSIONS

In conclusion, this report underscores a rare occurrence of achalasia cardia in Ahmedabad, Gujarat, India, emphasizing the success of surgical therapy and crucial diagnostic procedures. The aim of this study is to raise awareness about such cases and underscore the success of treatments. The positive outcome of laparoscopic Heller's myotomy with Dor's fundoplication suggests its efficacy as a preferred treatment, offering potential for future minimally invasive approaches.

Acknowledgments

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Competing Interests

There are no conflicts of interest.

Abbreviations

LES	Lower Esophageal Sphincter.
VIP	Vasoactive Intestinal Peptide.
OTC	Over the Counter.
GE	Gastroesophageal.
HRM	High-Resolution Manometry.
CCBs	Calcium Channel Blockers.
PPIs	Proton Pump Inhibitors.
POEM	Peroral Endoscopic Myotomy.
LHM	Laparoscopic Heller Myotomy.
GERD	Gastroesophageal Reflux Disease.

REFERENCES

1. O'Neill OM, Johnston BT, Coleman HG. Achalasia: a review of clinical diagnosis, epidemiology, treatment and outcomes. World J Gastroenterol. 2013;19(35):5806–12.
2. Evsyutina YV, Trukhmanov AS, Ivashkin VT. Family case of achalasia cardia: case report and review of literature. World J Gastroenterol. 2014;20(4):1114–8.
3. Solav S, Agarwal S. Serendipitous Diagnosis of Achalasia Cardia on a Radionuclide Study. Indian J Nucl Med. 2010;35(11):884–5.
4. Patel DA, Lappas BM, Vaezi MF. An Overview of Achalasia and Its Subtypes. Gastroenterol Hepatol (N Y). 2017;13(7):411–21.
5. Park W, Vaezi MF. Etiology and pathogenesis of achalasia: the current understanding. Am J Gastroenterol. 2005;100(6):1404–14.
6. Li MY, Wang QH, Chen RP, Su XF, Wang DY. Pathogenesis, clinical manifestations, diagnosis, and treatment progress of achalasia of cardia. World J Clin Cases. 2023;11(8):1741–52.
7. Sarumpaet F, Dairi L. A case report of achalasia. IOP Conf Ser Earth Environ Sci. 2018;125(1):012209.
8. Mustafavi S, Samee AA, Siddiqui S, Yousra T. A case report on achalasia cardia type - II. Int Sch J. 2019.
9. Zhang B, Wang Y, Liao Y, Zhang J, Wu Y, Xiao T, et al. Advances in The Diagnosis and Treatment of Achalasia of The Cardia: a Review. J Transl Int Med. 2021;9(1):24–31
10. Savarino EV, Salvador R, Ghisa M, Mari A, Forattini F, Costantini A, et al. Research gap in esophageal achalasia: a narrative review. Diseaes of the Esophagus. 2024 Mar 24:doae024.

