Beyond the Esophagus: A Combined Case Report and Narrative Review of Dysphagia Megalatriensis in Elderly Cardiac Patients

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Abstract

Dysphagia megalatriensis is a rare but clinically significant condition characterized by esophageal compression from a massively enlarged left atrium, typically associated with advanced cardiac disease. Delayed recognition can lead to malnutrition, aspiration, and significant morbidity. We report a case of 89-year-old woman with a decade-long history of progressive dysphagia, initially affecting solid food intake, progressing to liquids. Her medical history included longstanding atrial fibrillation and two prior aortic valve replacements. Medical investigations revealed severe left atrial enlargement compressing the esophagus, compatible with dysphagia megalatriensis. In view of her advanced age and comorbidities, a conservative management approach was adopted. Ultimately, the patient succumbed to postoperative complications related to a hip fracture and unrelated to her esophageal condition. This case highlights the importance of maintaining a high index of suspicion for cardiogenic dysphagia in elderly patients with cardiac disease and concomitant dysphagia. A multidisciplinary approach, prompt recognition, and tailored management are essential to improving outcomes in this rare condition.

Keywords: Dysphagia megalatriensis; left atrial enlargement; cardiogenic dysphagia; esophageal compression; atrial fibrillation; mitral valve disease

Introduction

Dysphagia is a common symptom among elderly individuals and can arise from diverse etiologies, including neurological, structural, muscular, and functional causes.[1] While oropharyngeal and esophageal dysphagia are frequently encountered, cardiogenic dysphagia originates from extrinsic compression of the esophagus by cardiac structure, a rare but often underdiagnosed condition.[2] Dysphagia megalatriensis refers specifically to esophageal compression by an enlarged left atrium, typically secondary to chronic mitral valve disease or atrial fibrillation.[3,4]

Although first described over half a century ago,[5] dysphagia megalatriensis remains infrequently reported, with less than 50 cases documented in the medical literature. The delayed recognition of this condition can result in malnutrition, aspiration, and poor quality of life which reflect the clinical importance of this disease.[6] In this report we present the detailed case of an elderly patient with longstanding dysphagia due to left atrial enlargement. Furthermore, we provide comprehensive narrative review of reported cases to date, aiming to synthesize key patterns and provide practical insights for clinicians involved in managing this complex patient group.

Case Report

An 89-year-old woman presented with a progressive 10-year history of dysphagia, initially to solid nutritional intake and later progressing to include liquids. She reported frequent episodes of food impaction, unintentional weight loss of over 12 kg in the past year, and postprandial chest discomfort. Her medical history was notable for longstanding atrial fibrillation, diabetes mellitus type 2, arterial hypertension, hypothyroidism, and two previous open aortic valve replacements for severe aortic stenosis (performed in 2006 and 2016, respectively). Additionally, she had a history of esophageal retention and prior gastroscopy showing pharyngeal pooling.

On physical examination, the patient was in good spirits and showed no overt signs of cachexia. Cardiovascular examination revealed irregularly irregular pulse consistent with atrial fibrillation but no signs of decompensated heart failure. Neurological examination was unremarkable, and there were no cranial nerve deficits, limb weakness, or signs of neuromuscular disease.

The patient previously underwent CT of the thoracic region; review of the CT revealed posterior esophageal compression by an enlarged left atrium [Figure 1].

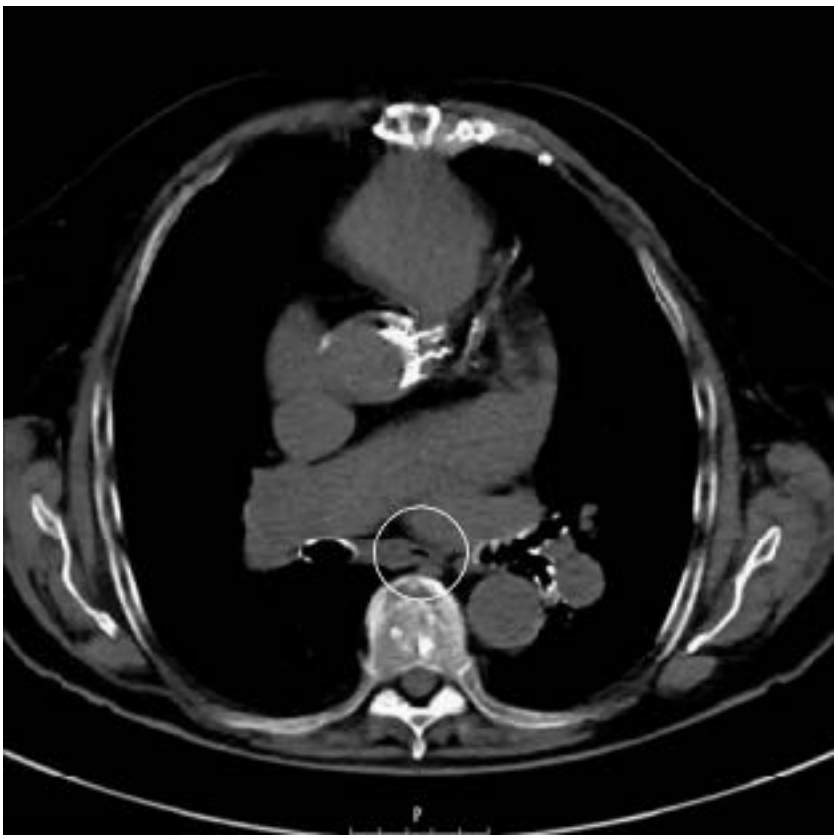

Figure 1: Transverse plane of computed tomography of the thoracic region, demonstrating compression of the esophagus, by the left atrium (circle).

Furthermore, the patient underwent a barium swallow study, demonstrating mid-esophageal narrowing consistent with extrinsic compression [Figure 2]. Full imaging series are presented in the supplementary Figures 1 and 2.

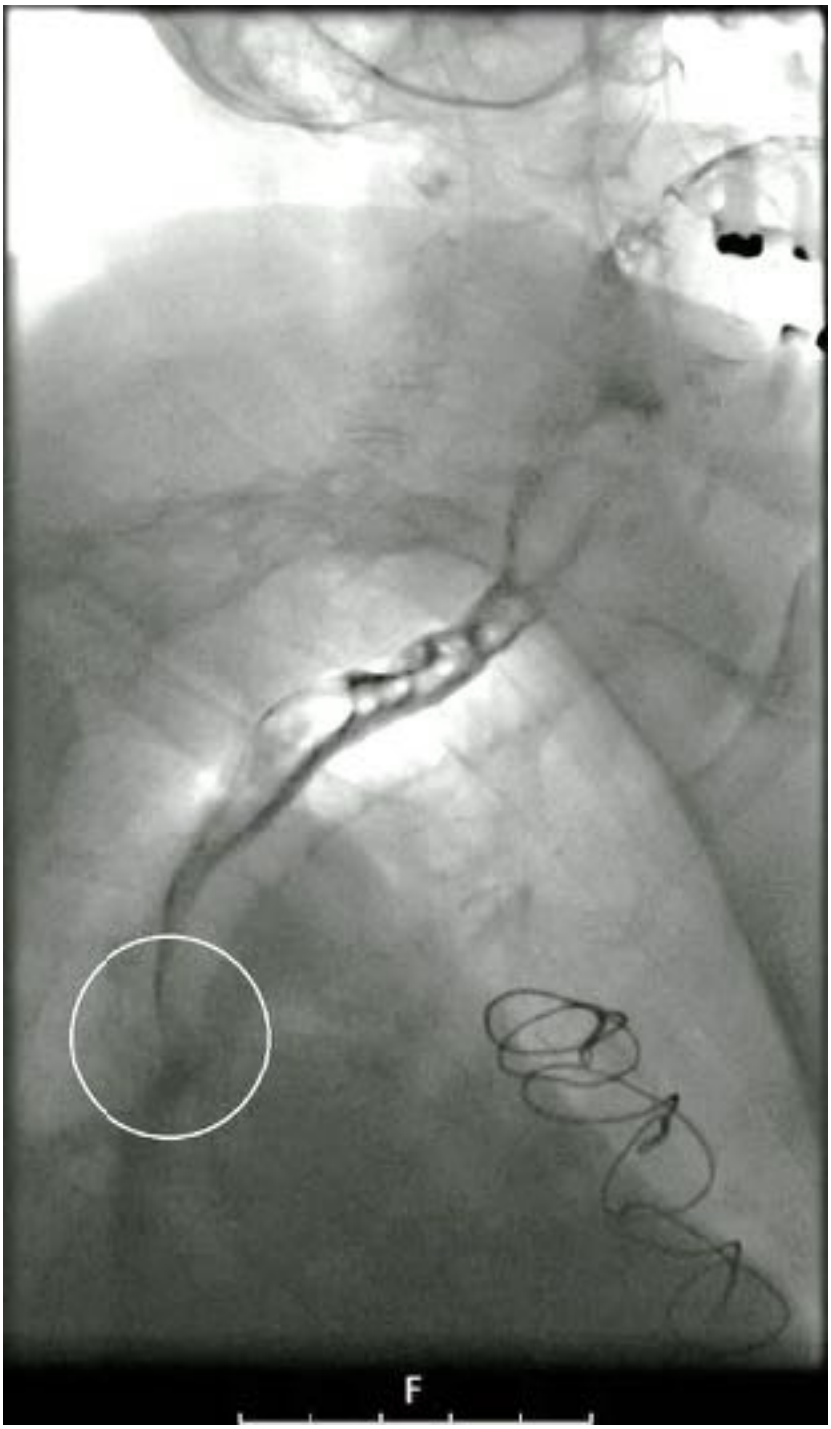

Figure 2: The barium swallow, demonstrates esophageal narrowing at the level of the left atrium (circle).

Esophagogastroduodenoscopy (EGD) revealed no intrinsic esophageal lesions or strictures. Transthoracic echocardiography (TTE) demonstrated a severely dilated left atrium with preserved prosthetic aortic valve function. To exclude central neurological causes, a brain magnetic resonance imaging (MRI) was performed, and found to be unremarkable.

Given the patient's advanced age and comorbidities, a conservative management approach was chosen. Dietary modifications were implemented, including a soft diet in small, frequent meals. Proton pump inhibitors were prescribed to reduce reflux, and atrial fibrillation was managed with beta-adrenergic blocking agents and anticoagulation therapy as further embolic prophylaxis. Surgical interventions such as left atrial reduction or percutaneous decompression were deemed too high-risk. Unfortunately, the patient sustained a hip fracture before follow-up and ultimately succumbed to postoperative complications related to hip fracture repair and unrelated to her esophageal condition.

To complement our case report with supporting literature, we conducted a nonsystematic PubMed search using the keywords: `dysphagia megalatriensis' OR `left atrial enlargement esophageal compression' OR `enlarged left atrium swallowing difficulty'. This search aimed to identify relevant literature discussing the clinical presentation, diagnostic workup, management strategies, and outcomes of patients with dysphagia megalatriensis. We included English-language publications without date restrictions. Additionally, we manually reviewed the reference lists of key articles to identify further pertinent publications for inclusion in this narrative review.

A review of published case reports and series reveals that dysphagia megalatriensis predominantly affects elderly patients, typically aged between 60 and 90 years.[7-9] Historically the most common underlying cause was rheumatic mitral stenosis, but with declining rheumatic disease prevalence in developed countries, non-rheumatic mitral regurgitation, dilated cardiomyopathy, and longstanding atrial fibrillation have become more common etiologies.[10-13] Both males and females are affected, though some reports suggest a slight female predominance.[7,8]

Progressive dysphagia is the hallmark clinical feature, often starting with dysphagia for solids and further advancing to liquids.[14] Associated symptoms include chest discomfort, regurgitation, aspiration, weight loss, hoarseness (when recurrent laryngeal nerve involvement occurs, known as Ortner's syndrome), and occasionally respiratory infections.[15-17] Many patients experience symptoms for months to years before diagnosis, reflecting the slow progression of atrial enlargement and the nonspecific nature of initial complaints.[18]

Diagnosing dysphagia megalatriensis requires a high index of suspicion, particularly in patients with known cardiac disease and unexplained dysphagia. A chest X-ray is often the first imaging modality, often demonstrating cardiomegaly and left atrial prominence, though sensitivity is limited.[19] Furthermore, both TTE and transesophageal echocardiography play a central role by providing precise measurements of left atrial size and evaluating valvular pathology.[20] Advanced imaging modalities such as CT offer detailed anatomical visualization and are particularly useful in confirming esophageal compression and excluding alternative mediastinal causes.[21] Barium swallow studies can demonstrate characteristic esophageal indentation or narrowing caused by extrinsic compression. They can also aid in differentiating mechanical obstruction from motility disorders.[22]

Additionally, esophageal manometry and EGD are often employed to exclude intrinsic esophageal diseases, such as achalasia or malignancy; manometry typically shows preserved peristalsis with a mechanical obstruction pattern, while EGD is critical to rule out mucosal abnormalities.[23] A multimodal diagnostic approach ensures accurate diagnosis and in effect an appropriate management plan tailored to each patient.

Management strategies vary depending on patient fitness, severity of symptoms, and underlying cardiac pathology. Options include medical management with diuretics, afterload reduction, atrial fibrillation control, and nutritional support.[14] Surgical interventions, including mitral valve repair or replacement and left atrial reduction (plication) are considered in selected cases.[24,25] Nutritional strategies, such as soft diets, feeding modifications, or feeding through nasogastric tubes, may be necessary for patients unable to maintain adequate oral intake.[3,14]

Outcomes are heterogeneous as some patients achieve symptom stabilization or improvement with medical management alone, particularly if cardiac function can be optimized.[13,14] However, others require surgical correction

for definitive relief.[24] Furthermore, elderly and frail patients often face significant perioperative risks, and comorbidities frequently dictate prognosis as presented in our case.

Discussion

This combined case and literature review highlights the diagnostic and therapeutic complexities of dysphagia megalatriensis. Although rare, this condition exemplifies the critical intersection between cardiac and gastrointestinal systems, reminding clinicians that not all dysphagia originates in the esophagus itself.[26]

Diagnostic delay is a major challenge, whereas many patients undergo repeated gastrointestinal evaluations before cardiac causes are considered, despite having underlying cardiac conditions.[27] This suggests a need for greater awareness among gastroenterologists and primary care providers about the potential risk of dysphagia from cardiac origin, particularly in elderly patients with atrial fibrillation or valvular heart disease.[28]

Another major challenge is balancing the risks and benefits of potential intervention. Surgical reduction of left atrial volume or mitral valve correction can offer significant symptom relief but comes with inherent risks, particularly in elderly, frail, or multimorbid patients.[24,25] In our case, despite severe left atrial enlargement, the patient's comorbidities and surgical risk profile made conservative management the only viable approach.

Nutritional considerations are paramount. Progressive dysphagia leads to weight loss, sarcopenia, and vulnerability to infections and poor wound healing.[1] Early involvement of nutritionists and consideration of supportive measures, including texture-modified diets or feeding tubes, are essential parts of management.[29] Even when cardiac interventions are not pursued, optimizing caloric intake can significantly affect patient outcomes and quality of life.[30]

From a research perspective, significant gaps remain in defining optimal diagnostic and therapeutic strategies when dealing with this condition. There is no consensus on when to escalate from medical to surgical management, nor are there validated algorithms for early identifying at-risk patients. Future studies should focus on developing screening tools, clarifying surgical indications, and tracking long-term outcomes.

Lastly, a multidisciplinary approach is critical, cardiologists, gastroenterologists, radiologists, nutritionists, and sometimes surgeons must work together to tailor care to each patient's clinical picture. Awareness campaigns and educational efforts may help disseminate knowledge about this rare but impactful condition, ensuring that fewer patients experience diagnostic delays or suboptimal management.

Conclusion

Dysphagia megalatriensis, though rare, poses significant diagnostic and management challenges in elderly cardiac patients. Prompt recognition, careful evaluation, and individualized treatment strategies are essential for optimizing outcomes. This combined case report and narrative review aims to offer a synthesized understanding of the condition, highlight practical considerations, and encourage further research to enhance care for affected patients.

Disclosure

The authors declare there are no competing interests. Informed consent was acquired from the patient.

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