

Deglutition-Induced Atrial Tachycardia

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Introduction

Deglutition-induced atrial tachycardia is a rare entity, comprising about 50 cases reported to date.

Unlike bradyarrhythmias which is the most common swallowing induced arrhythmia, atrial tachycardia is most likely mediated by sympathetic or mechanical stimulation. In this case, swallowing-induced atrial tachycardia was treated with pulmonary vein isolation (PVI) pointing to a mechanical cause of the condition

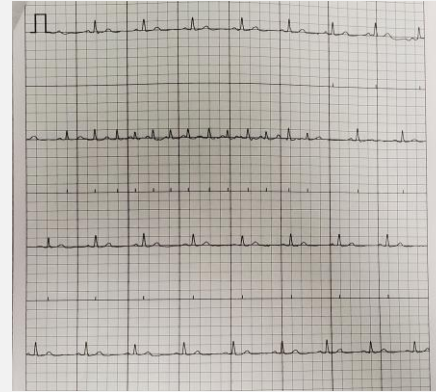


Figure 1: Atrial tachycardia captured by patient on Kardia Device

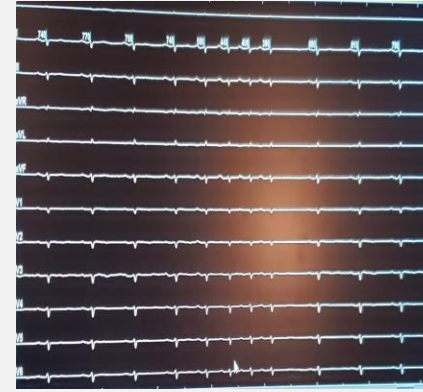


Figure 2: Atrial tachycardia induced by swallowing pudding in EP lab

Discussion

There has been multiple hypotheses regarding the cause of deglutition-induced atrial tachycardia. In the case reported by Burton et al, swallowing induced atrial tachycardia was treated with esophageal repositioning. This finding suggested a mechanical etiology of this pathology. However, Morady et al, used esophageal manometry and discovered that atrial tachycardia was initiated during esophageal relaxation. Furthermore, in a 2016 case authors mapped the origin of tachycardia to superior vena cava. These findings pointed towards an autonomic etiology. In our case, atrial tachycardia was treated with PVI indicating a pulmonary vein etiology of the arrhythmia which supports a mechanical cause.

Conclusion

Given the studies discussed above, both mechanical and autonomic mechanisms have potential roles in the development of deglutition-induced tachycardia. Further studies will be required to determine appropriate management approaches.

References

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Case

75-year-old female with paroxysmal atrial fibrillation presented for workup of palpitations induced by swallowing. She underwent extensive cardiac workup with benign results. She experienced 2-week history of palpitations and dizziness associated with swallowing solid foods. She used a Kardia device, and the printout of the telemetry strip was notable for a short run of atrial tachycardia during swallowing. Between episodes she was asymptomatic. Patient was arranged for atrial fibrillation and atrial tachycardia mapping and ablation. In the EP lab, atrial tachycardia was reproduced by swallowing pudding. Her atrial fibrillation was treated with PVI which also resulted in resolution of atrial tachycardia.

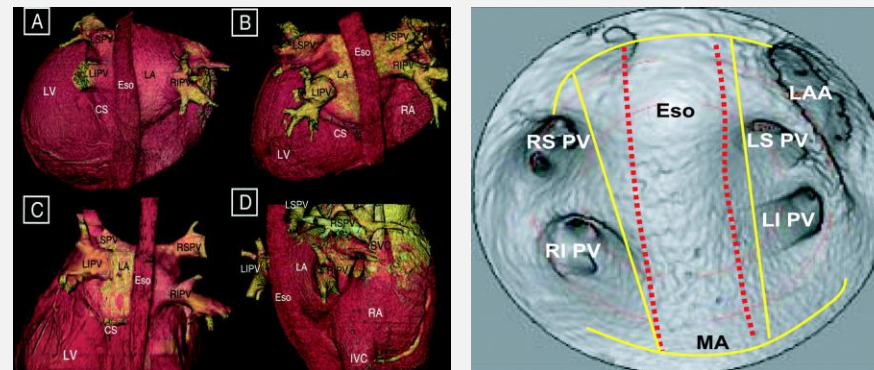


Figure 3: Anatomy of atria in relation to esophagus taken from Computed Tomographic Analysis of the Anatomy of the Left Atrium and the Esophagus | [Circulation \(ahajournals.org\)](http://ahajournals.org)