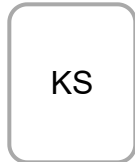


# P1775 - A Hiatal Hernia Causing Atrial Fibrillation Through Direct Mechanical Irritation

Monday, October 28 10:30 AM - 4:15 PM

Location: Exhibit Halls 3 and 4 (Street Level)

## Presenting Author(s)



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**Introduction:** Hiatal hernia (HH) is anatomically classified into four types according to herniated structures. Giant HH refers to a herniation of > 50% of the stomach. Atrial fibrillation (AF) is a common arrhythmia, frequently seen in association with cardiovascular diseases. We report a case of AF caused by a giant HH compressing the left atrium.

**Case Description/Methods:** A 90+ year-old female with a past medical history of gastroesophageal reflux disease (GERD), was admitted for surgical evaluation of symptomatic HH. During hospital stay the patient developed AF with rapid ventricular response, became hypotensive and lightheaded. EKG (Figure 1) confirmed new onset AF with non-specific ST-T wave changes. Sinus rhythm conversion was achieved by amiodarone drip. Metabolic and endocrine causes of the AF were ruled out. Ischemic etiology of the AF was ruled out by a normal myocardial perfusion imaging study.

Computed tomography Angiography of the chest (Figure 2) was only remarkable for persistent giant hiatal hernia. Echocardiogram (Figure 3) showed external material compressing against the heart and the left atrium. At that point, the patient and the surgical team have decided on conservative management for her HH due to her high surgical risk. Patient was discharged home in sinus rhythm on oral anticoagulant and beta blocking agent.

**Discussion:** Gastroesophageal reflux disease (GERD), HH and AF are often seen in association. AF in GERD patients is likely due to local cytokine release from esophageal injury or vagal overstimulation. Such association is supported by reduced AF recurrences by reflux suppression with PPI use or fundoplication. However, the underlying mechanism of AF in HH patients has not been fully understood.

In our case, left atrial compression and impingement were seen, which indicates direct left atrial irritation causing atrial arrhythmia. Surgical reconstitution of HH to relieve the cardiac compression would be the definitive treatment. Unfortunately, our patient was not a candidate for such invasive thoracic surgery due to her age. A similar case scenario was previously reported, in which AF was suppressed after laparoscopic surgical repair of a giant paraesophageal hernia. More cases need to be studied to confirm the hypothesized etiology of AF in patients with giant HH.



Figure 1: An Electrocardiogram showing a new onset Atrial Fibrillation with Rapid ventricular response, with a heart rate of 158 Beat per minute and nonspecific ST segment –T wave abnormalities.



Figure 2: Computed tomography Angiography of the chest showing giant hiatal hernia with the majority of the stomach projecting superior to the diaphragm and compressing the posterior wall of the heart.



Figure 3: A Transthoracic Echocardiogram showing external material compressing against the heart and causing the left atrium to be poorly visualized.

### **Disclosures:**

Kirolus Sourial indicated no relevant financial relationships.

Zaid Yaqoob indicated no relevant financial relationships.

Anthony Chahin indicated no relevant financial relationships.

Saif Borgan indicated no relevant financial relationships.

Ernesto Robalino Gonzaga indicated no relevant financial relationships.

Aamir Javaid indicated no relevant financial relationships.

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