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## Introduction:

- Aortic dissection (AD) refers to the tear in the inner layer of the aortic wall, creating a false lumen. Its propagation can cause cardiac tamponade, acute aortic regurgitation or aortic rupture.<sup>[1]</sup>
- It is a diagnosis easy to miss; 63% of patients did not get diagnosed with aortic dissection in an autopsy study<sup>[2]</sup>. We encountered a patient who presented with chest pain in whom the diagnosis of aortic dissection got delayed, ultimately resulting in death.

## Objectives:

- To measure the incidence of aortic dissection in SPUH.
- To assess baseline knowledge of residents on methods of diagnosing aortic dissection
- To educate residents to help prevent missed/delayed diagnosis of this potentially fatal condition.

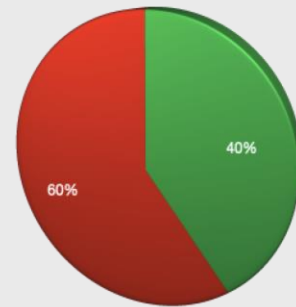
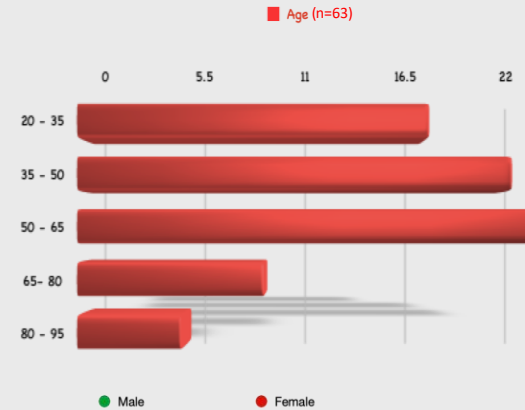
## Methodology:

- A retrospective chart review of patients admitted to SPUH with chest pain over 3 months (July-September 2020) was conducted to identify the incidence of aortic dissection. Electronic medical records were analyzed to identify if diagnosis of aortic dissection was considered at admission or during hospitalization.
- A survey was conducted among residents to assess their knowledge regarding AD using SurveyMonkey. Data gathered from this survey was analyzed using Microsoft Excel for analysis. Resident education was provided via Grand Rounds.

## Discussion:

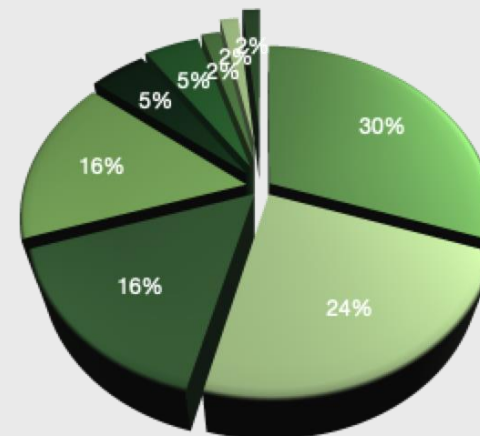
- In patients presenting with chest pain, it is imperative to rule out (r/o) "serious six"; but because of the rarity of aortic dissection, it often gets overlooked<sup>[2,3]</sup>. According to a study, aortic dissection gets missed in 39% of cases at initial presentation; and if not diagnosed correctly, it carries a mortality of 40% on presentation with an additional 1% mortality per every hour delay<sup>[4,5]</sup>.

## Results:

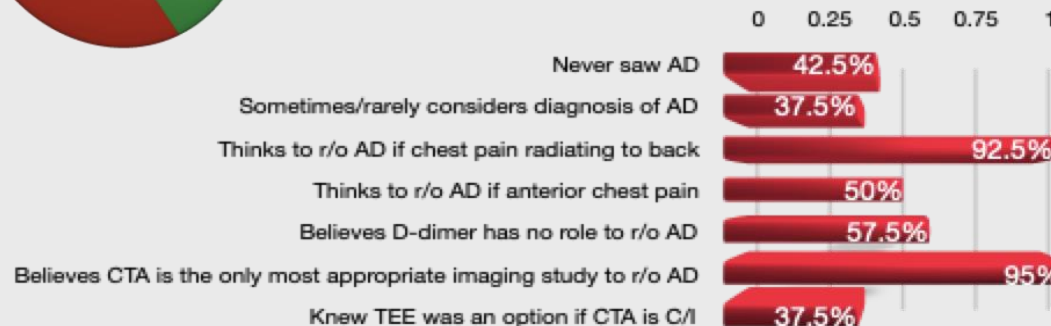


## Diagnosis on discharge (n=63)

- ACS
- MSK
- Pleural effusion
- Aortic dissection
- Unknown
- Pulmonary embolism
- Arrythmia
- GERD
- Pneumonia
- Heart failure



## Resident Survey (n=40)



## Discussion:

- Diagnosis of aortic dissection requires a high index of suspicion. A complete history and physical examination is essential, including BP measurement in all four limbs and auscultation of heart sounds. D-dimer <500ng/ml has a 96% negative predictive value<sup>[6]</sup>. CXR may show widening of mediastinum. TEE/MRA/CTA are highly accurate in diagnosing aortic dissection<sup>[4]</sup>. TEE has high sensitivity and specificity to diagnose aortic dissection and can be used at the bedside when CT/MRA cannot be done due to hemodynamic instability or contraindication (C/I) to contrast<sup>[7]</sup>.
- In a significant number of patients with chest pain who got admitted to SPUH over the study period, aortic dissection was not considered as a diagnosis, given the rarity of this condition. TEE was never performed on any of the patients. Internal Medicine residents were sensitized via Grand Rounds to keep a high index of suspicion and educated about diagnostic methods, especially role of D-dimer and TEE. Continuing medical education is required to keep residents aware of symptomatology and diagnostic techniques for aortic dissection.

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