HYPOCOAGULATION ALONE IN PRIMARY AORTIC MURAL THROMBUS: IS THIS THE BEST INITIAL APROACH?

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Background

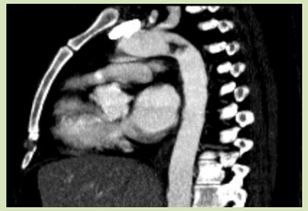
DEFINITION

Primary aortic mural thrombus (PAMT) is defined as the occurrence of thrombus in a non-aneurismal and minimally atherosclerotic aorta.

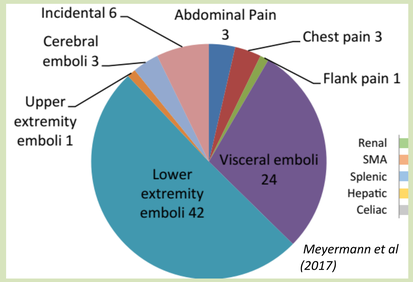
PRESENTATION

ASSYMPTOMATIC

Incidental found on CT



SYMPTOMATIC



Meyermann et al (2017)

CAUSES

IDIOPATHIC

PROTHROMBOTIC CONDITIONS

Malignancy
Thrombocitosis
Hypercoagulable states
Primary aortic tumors
Intestinal Inflamatory Disease

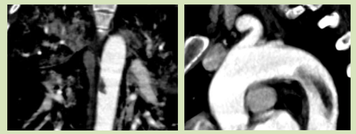
Steroids
Smoking
Oral Contraceptives
Trauma

CLASSIFICATION

Type I: Mural thrombus in ascending and arch of aorta (up to origin of left SCA)
Type II: Mural thrombus descending thoracic aorta (distal to left subclavian artery up to coeliac artery.
Type III: Mural thrombus in aortic segment between coeliac artery to lowest renal artery
Type IV: Thrombus between lowest renal artery to aortic bifurcation.

Verma et al (2014)

Sessile **Pedunculated**



TREATMENT

SYSTEMIC ANTICOAGULATION

OPEN AORTIC SURGERY

ENDOVASCULAR AORTIC REPAIR

There are currently no guidelines or consensus to outline the ideal initial management for this problem.

Methods

We performed a retrospective analysis of patients diagnosed with PAMT between January 2015 and March 2018 in our institution. We reviewed demographic data, risk factors, clinical presentation, localization of thrombus, treatment and follow-up.

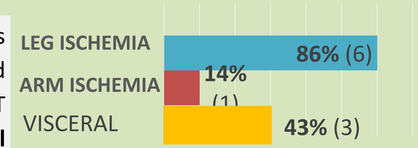
Results

DEMOGRAPHICS

- **Seven patients** with PAMT were included
- Mean age **47.7 years**; Male/female ratio **1:2.5**

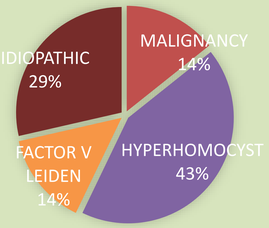
PRESENTATION

In all cases initial presentation was an **embolic event to the limb** and required surgical embolectomy. CT scan showed associated **visceral embolism** in three patients (43%).



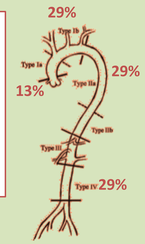
CAUSES

- Idiopathic – 2 (29%)
- **Prothrombotic Conditions – 5**
  - **Hyperhomocysteinemia – 3 (43%)**
  - Factor V Leiden Mutation – 1 (14%)
  - Malignancy – 1 (14%)



LOCATION

- **Thoracic Aorta – 5 (71%)**
  - Ascending – 1
  - Arch – 2
  - Descending – 2
- Abdominal Aorta – 2 (29%)
  - Infra-renal – 2

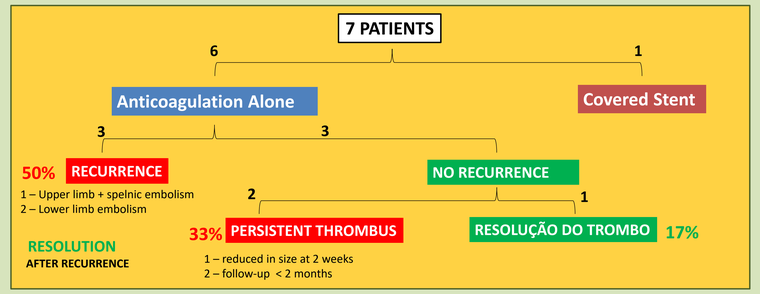


MORPHOLOGY

- Sessile
  - 2 (29%)
- **Pedunculated**
  - 5 (**71%**)

MANAGMENT

Six patients were initial treated with anticoagulation alone. From this group, three patients (50%) had recurrence of embolization during early follow-up with subsequent thrombus resolution, two (33%) had persistence of thrombus during follow-up and **only one (17%) showed complete thrombus resolution without recurrence**. One patient was initial managed with a covered aortic stent and showed no complications or recurrence during follow-up.



One patient required **major amputation** after recurrence of embolization.

Discussion

PAMT must be considered in the differential diagnosis of peripheral embolism when no cardiac source is identified. Although anticoagulation therapy is associated with high thrombus **resolution rates** (**77%** in our group), it is also associated with high **recurrence rates** (**50%** in our group). We found that ***only 17% of our patients which were treated with anticoagulation alone had complete resolution of thrombus with no recurrence*** during early follow-up (2 months).

IS ANTIOCOAGULATION ALONE THE BEST INITIAL APROACH?

Recent metanalysis on PTMA report **recurrence rates between 30%-35% when initial management is anticoagulation alone**. They refer to **ENDOVASCULAR THERAPY** as and useful alternative as a first-line option for PAMT, associated with no recurrence and low complications but further study and specific indications for its use are still required.