



# **INFRARENAL ABDOMINAL AORTIC DISSECTION - HYBRID TREATMENT: case presentation**

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# Introduction

- Isolated infrarenal abdominal aortic dissection (IAAD) is a very rare pathology
- 13% of all patients with aortic dissections (AD) (Trimarchi - 2007)
- 4,1% among cases with type B –AD (Wu, Elefteriades-2019)
- Jonker(2009) in a systematic review found only 92 cases across the world
- Prior Ao dilatation in 57% of cases (Sen,2020 )
- Pathology that should be regarded, studied and treated as a unique entity

# A systematic review and meta-analysis of isolated abdominal aortic dissection

Jinlin Wu, MD,<sup>a,b</sup> Mohammad Zafar, MD,<sup>b</sup> Juntao Qiu, MD,<sup>a</sup> Yan Huang, MD,<sup>c</sup> Yuling Chen, MD,<sup>d</sup> Cuntao Yu, MD,<sup>a</sup> and John A. Elefteriades, MD,<sup>b</sup> *Beijing and Nanchong, People's Republic of China; and New Haven, Conn*

JVS 2019

- Prevalence IAAD is less than 6%
- Male prevalence – 73,1%
- Average age of presentation – 63,9y
- Etiology : spotaneus(96,2%), iatrogenic or traumatic
- Up to 41,1% did not present any clinical symptoms
- Up to 71% had negative physical examination

# Background 1

- 1970 - the first reports of hybrid surgery
- Procedures performed initially in cathlab
- Mixed team : vascular surgeon, cardiologist or interventional radiologist
- Actually in hybrid room – vascular surgeon

# Case presentation

- B.M., male, 63 y. old ; asymptomatic
- Discovered at a routine abdominal echografic control with an aortic dilatation with right iliac involvement
- Dg.put at multislice CT with 3D reconstruction
- Comorbidities:
  - obesity gr.III
  - diabetes mellitus type II
  - hypertension





Femoro-iliac axes



# IAAD - Therapeutic options

- Conservative management
  - Open surgery
  - Endovascular treatment
  - Hybrid procedure
- Vascular team:
    - Hybrid procedure
  - Location : cathlab
  - Anesthesia : locoregional
  - Team : surgeon, interventional cardiologist, anesthesiologist
  - Cutdown – the two femoral arteries



# Ao-uniiliac stentgraft





Intraoperative  
femuro- femoral  
view (dacron silver  
graft)

# Results

- The post-operative suits were simple
- The patient was discharged in the 4th postop day
- He received oral anticoagulation for three months
- Control CT scan at 1 month ,6 months and yearly after



CT scan at one month

# Discussions

- In the situation of coexisting of IAAD with abdominal aortic dilatation (6,2cm ) the probability of aortic rupture is higher : the dissection process affects the already abnormal vascular wall in a negative manner
- The aorto uniiliac graft (Bolton Treo) blocks the entrance orifice of the dissected area and lands on the common iliac artery at the bifurcation

# Discussions

- Open repair has been considered for years the goldstandard procedure (Davidovic, JVS,2021)
- The goal of the treatment strategy is to close the entry site and decompress the false lumen
- The endovascular approach is the modern alternative whenever is possible

# Spontaneous Infrarenal Aortic Dissection in an Athlete Managed Emergently With Endovascular Stent Grafts, Occluders, and Femoral-Femoral Artery Bypass

Morgan Callahan, DO; Joseph Campbell, MD

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CT scan at 1 month after  
hybrid intervention

# Conclusions

- Lack of strategies for management of IAAD in actual guidelines
- Hybrid procedures, performed in patients at high surgical risk, have similar results to standard or endovascular surgical treatment, in short and medium terms, but with lower morbidity and mortality and shorter stay time in intensive care and hospitalization





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