



# 70<sup>TH</sup> ESCVS CONGRESS & 7<sup>TH</sup> IMAD MEETING

20 | 23 JUNE 2022

Liège | Théâtre de Liège | Belgium

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**70th ESCVS**

International congress of the European Society  
for Cardiovascular and Endovascular Surgery



**7<sup>th</sup> IMAD meeting**



# **TREATMENT OF BLUNT AORTIC ISTHMUS RUPTURE: 19-YEARS SINGLE CENTER EXPERIENCE**

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**NO DISCLOSURE**



## INTRODUCTION

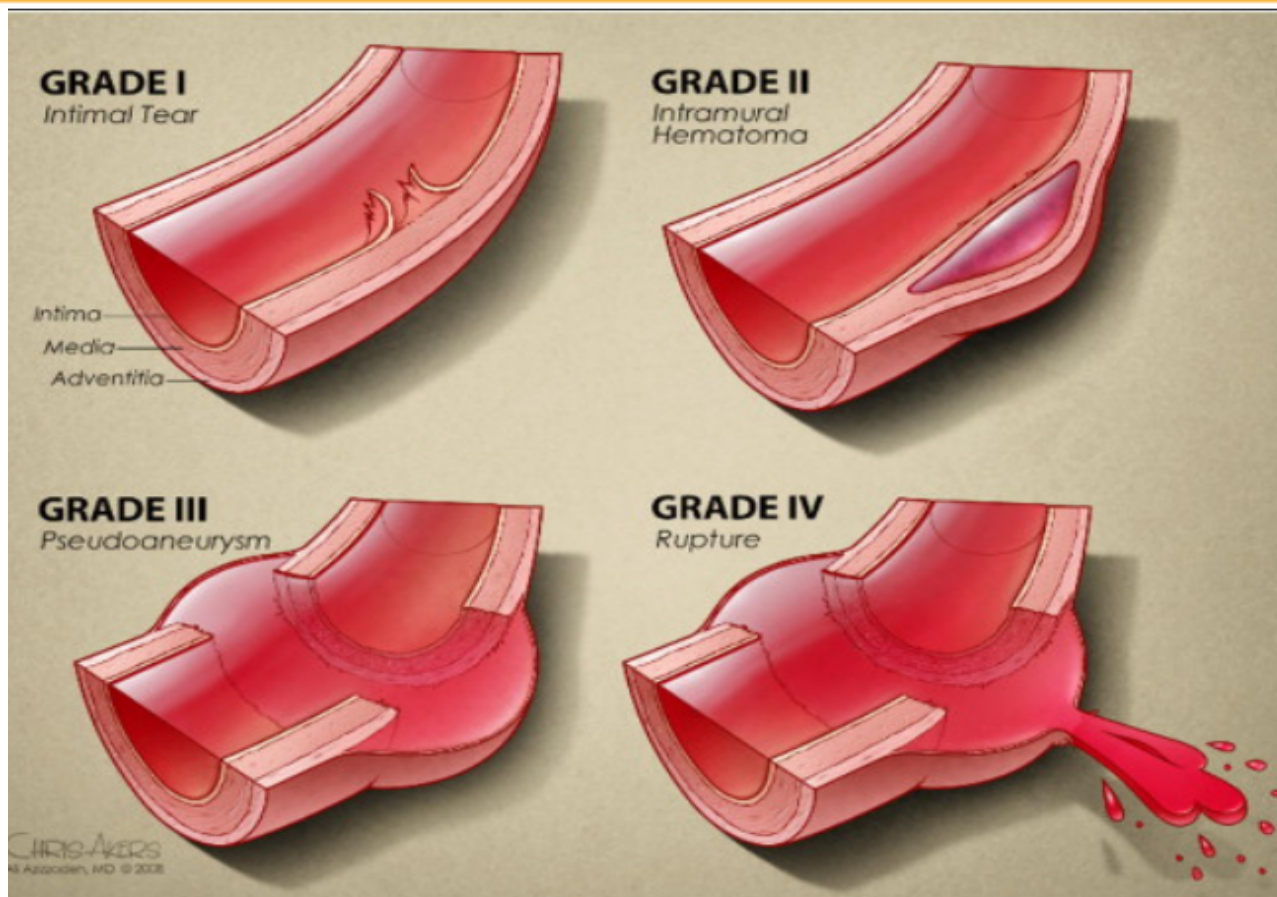
Aortic injuries are involved in 0,4% of admissions in trauma patients

The autopsy examination attributed 33% of death in trauma patient from aortic injury

- 80% occurs at the scene of the accident
- 20% occurs in hospital

Diagnosis and management of blunt aortic isthmus rupture have improved the last 20 years.





Azizzadeh A, Keyhani K, Miller CC, et al. Blunt traumatic aortic injury: initial experience with endovascular repair. J Vasc Surg. 2009;49:1403e8.

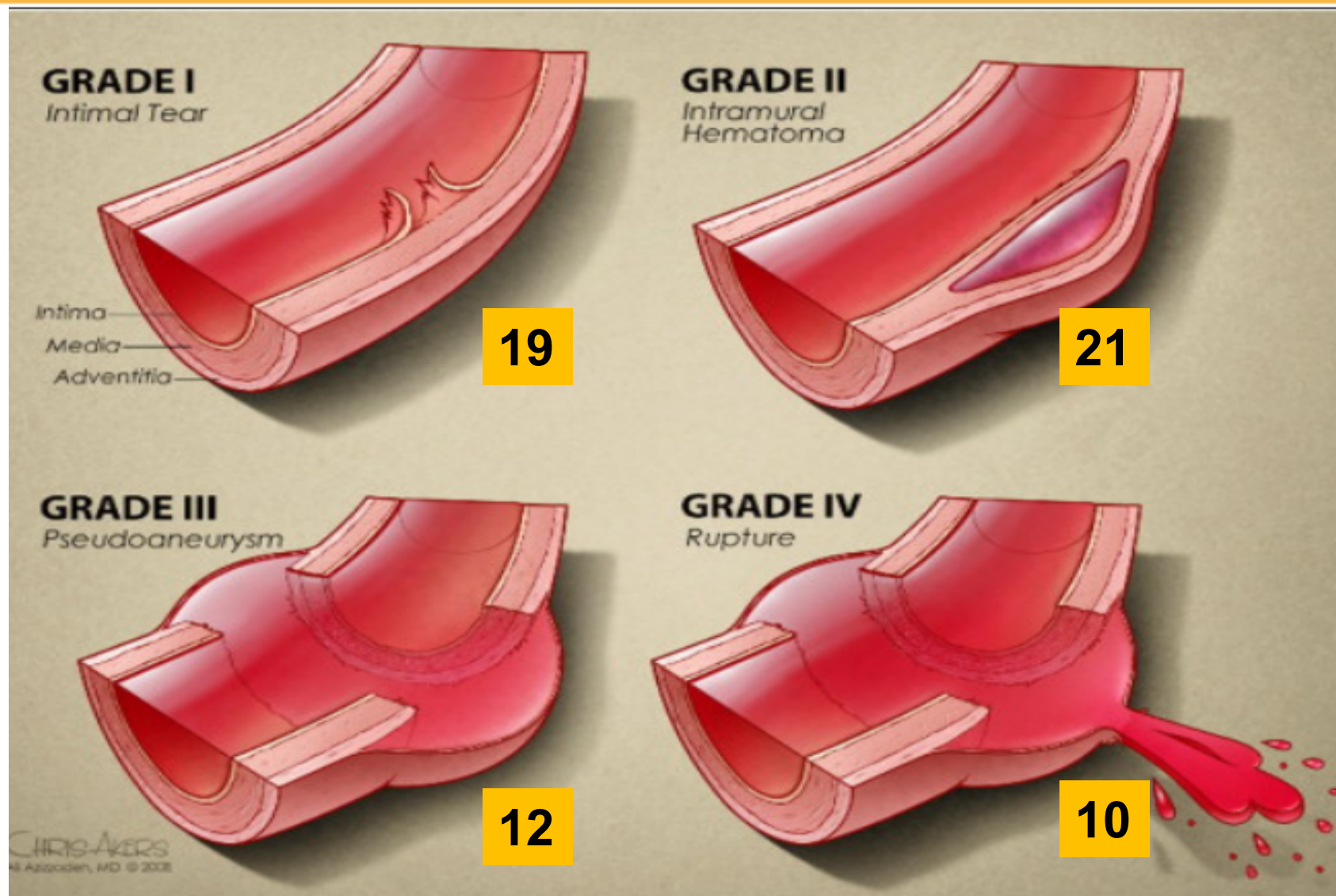
Lee WA, Matsumura JS, Mitchell RS, et al. Endovascular repair of traumatic thoracic aortic injury: clinical practice guidelines of the society for vascular surgery. J Vasc Surg. 2011;53:187e92



**OUR EXPERIENCE**  
(University Hospital of Liège)

- Retrospective study with **62** patients admitted between **2002 – 2021**
- It concern **48** males – **14** females with mean age of **47** years-old
- Mechanism of injury:
  - 55 road traffic accidents
  - 6 falls from height
  - 1 crush injury







## OUR RESULTS

<b>Death before management of aortic lesion (n=%)</b>	<b>9%</b>
1 internal hemorrhaging with hemopericardium	
1 cardiac arrest at emergency department	
1 cardiac arrest during transfer to the operating theatre	
1 from associated injuries (thoracic, spine, abdominal)	
1 from severe brain injury	
1 during open repair procedure	





**OUR RESULTS (2) : Management**

Management :	n (%)
<b>Open surgery repair</b>	32%
<b>Endovascular repair</b>	25,80%
<b>Non operative management</b>	34%



## OUR RESULTS (3)

	Non operative management	Open repair surgery	TEVAR
grade I	14	3	2
grade II	3	10	8
grade III	4	6	2
grade IV	0	1	4

### Mean hospital stay (days)

Non operative management	13,1
Endovascular Repair	13,4
Open surgery repair	22,8

### Median Follow up (Months)

59



## ASSOCIATED INJURIES

Type of injury	%
thoracic	80
limb	30
pelvic	26
spine	26
abdominal	21
cranial	9



## COMPLICATIONS (1)

### **Open surgery:**

- 1 paraplegia (no distal perfusion during surgery) and 1 paraparesia
- 1 acute lower limb ischemia
- 2 recurrent nerve palsy
- 1 respiratory failure
- 1 acute kidney injury
- 1 critical illness polyneuropathy
- 1 death during procedure



## COMPLICATIONS (2)

Endovascular repair was *not associated with any complications, mortality or spinal cord injury.*



## IN CONCLUSION

In our experience, endovascular repair of aortic isthmus rupture is safer than surgical treatment.

TEVAR can be delayed if the patient is stable with associated injuries,

If surgery is performed, it has to be done with distal perfusion to prevent spinal cord injury.

We recommend endovascular treatment as a first choice for blunt aortic injuries



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**THANK YOU  
FOR YOUR ATTENTION**