The Data Behind Persistent / Recurrent Pain and Hypertension in the Treatment of uTBAD

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March 5, 6 & 7, 2026
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Faculty Disclosure

- **National Institute of Health-NHLBI**: 1UG3HL165017-01A1
- **Grant Support**: WL Gore, Medtronic payable to UT-Houston
- **Thanks**: Chris Akers and Troy Brown

Definitions

- **Persistent pain**: 6/10 pain requiring escalating doses of narcotics for more than 12 hours, despite adequate blood pressure control.
- **Recurrent pain**: Subjects became either pain-free or had decreasing analgesic requirement during the index hospitalization and, subsequently, developed recurrent
- **Refractory hypertension**: Is considered present when patients were unable to be weaned from maximal first- and second-line intravenous antihypertensive therapy, or in those on maximal ≥4-drug oral antihypertensive medications.

Isselbacher EM et al. Circulation 2022
Lombardi JV et al. JVS 2020
Czerny M et al. Ann Thorac Surg 2024

Refractory pain and/or hypertension as High-Risk Feature

What exactly the patient is at high risk for:

- Conversion to acute cTBAD (rupture, malperfusion, death)?
- Or is this risk of long-term complications, such as aneurysmal degeneration?
- Readmission? Reason for readmission?

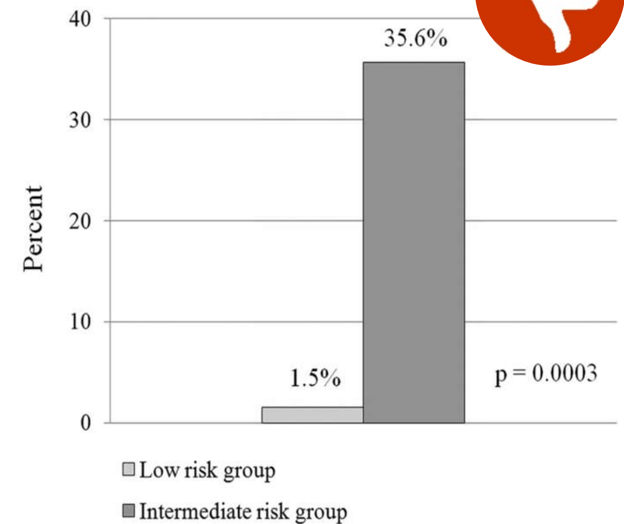
Refractory Pain and Hypertension

Cardiovascular Surgery

Importance of Refractory Pain and Hypertension in Acute Type B Aortic Dissection

Insights From the International Registry of Acute Aortic Dissection (IRAD)

Santi Trimarchi, MD; Kim A. Eagle, MD; Christoph A. Nienaber, MD; Reed E. Pyeritz, MD; Frederik H.W. Jonker, MD; Toru Suzuki, MD; Patrick T. O'Gara, MD; Stuart J. Hutchinson, MD; Vincenzo Rampoldi, MD; Viviana Grassi, MD; Eduardo Bossone, MD; Bart E. Muhs, MD, PhD; Arturo Evangelista, MD; Thomas T. Tsai, MD; Jim B. Froehlich, MD; Jeanna V. Cooper, MS; Dan Montgomery, MS; Gabriel Meinhardt, MD; Truls Myrmel, MD; Gilbert R. Upchurch, MD; Thoralf M. Sundt, MD; Eric M. Isselbacher, MD; on behalf of the International Registry of Acute Aortic Dissection (IRAD) Investigators



- 296 with 20% with pain and HTN. Overall mortality rate of 6.6% in the uTBAD.
- 6/10 deaths were considered to have persistent pain or hypertension in the absence of other complications.
- Higher proportion of enlarged aortas (>6 cm), and 4/6 died of rupture (change in anatomy)

Trimarchi S et al. Circulation 2010

The American Journal of Cardiology

Refractory Systemic Hypertension Following Type B Aortic Dissection

James L. Januzzi, MD, Marc S. Sabatine, MD, Julie C. Choi, MD, William B. Abernethy, MD, and Eric M. Isselbacher, MD

…rHTN is common and typically resolves by discharge…it is not associated with renal artery compromise or significant aneurysm formation…

The American Journal

Significance of Recurrent Pain in Acute Type B Aortic Dissection

James L. Januzzi, MD, Herman D. Movsowitz, MD, Julie Choi, MD, William B. Abernethy, MD, and Eric M. Isselbacher, MD

…recurrent pain is common and usually occurs early in the hospital course…was not associated with risk of in hospital complications, aneurysm expansion or need for early surgery…

For refractory hypertension and recurrent pain, the authors recommend continued medical therapy

Januzzi JL et al. Am J Cardiol April and September 2001

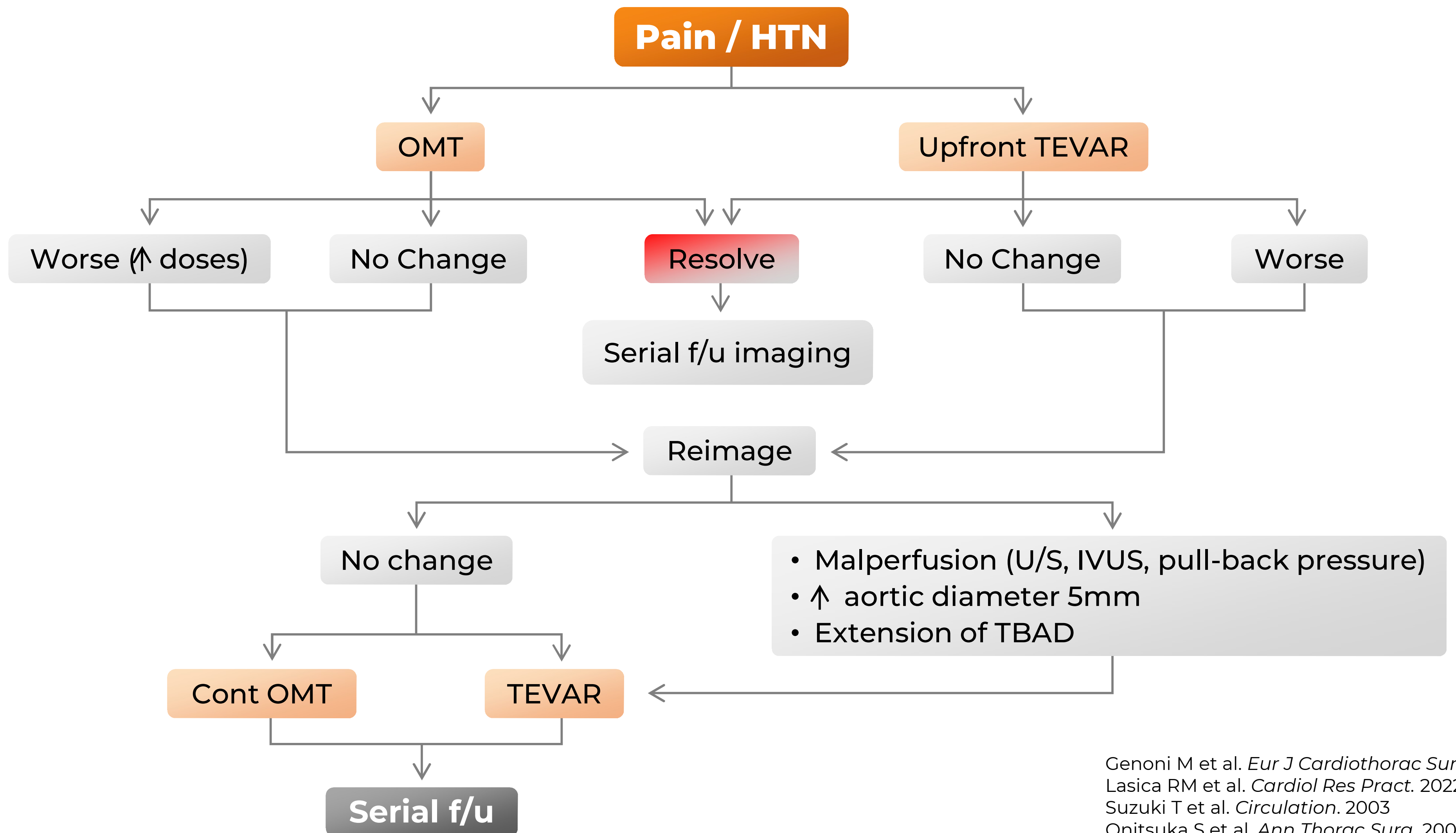
All Patients with TBAD: Anti-Impulse Rx

- Goal SBP <120 mmHg, MAP <80 mmHg, HR <80 bpm
- First-line – labetalol infusion, wean first
- Oral therapy – Amlodipine 5 mg qd and Carvedilol 12.5 mg q12 hours on admission:
- Concentrate medications, if possible, particularly for gtt >24 hours
- On admission: consulting cardiology for medication dose or timing adjustments and post discharge follow up
- All patients are re-imaged at a 48-hour interval, or sooner, if necessary, based on symptom development.

Protocol of Medical Management

- Establishment of an institutional protocol was associated with fewer patients progressing to complicated dissection requiring surgery (14% vs. 30%).[57]
- Furthermore, there was a higher freedom from aortic surgery out to 5 years,
- Early oral hypertensive treatment and de-escalation of care showed significant reductions in resource utilization and costs.

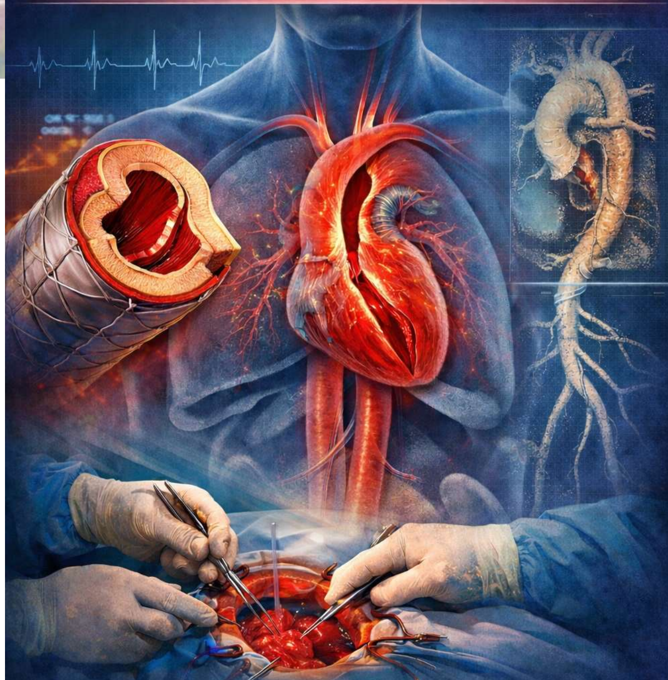
Gober LM et al. J Vasc Surg. 2025
Aziz A et al. J Vasc Surg. 2022



Genoni M et al. *Eur J Cardiothorac Surg*. 2002.
Lasica RM et al. *Cardiol Res Pract*. 2022
Suzuki T et al. *Circulation*. 2003
Onitsuka S et al. *Ann Thorac Surg*. 2004
Schwartz SI et al. . *J Vasc Surg*. 2018
Song JM et al. *J Am Coll Cardiol*. 2007

Take Home....

- Persistent pain and HTN are common and often not related to malperfusion of impending rupture
- Data is weak (Grade D)
- Protocolized, multidisciplinary team approach leads to improved in and out the hospital outcome
- Dedicated ICU, nursing, anesthesia
- Reimage liberally and treat appropriately
- Best care is within trial



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IRAD 30TH AND OTHER REGISTRIES

MILAN MARCH 12-13, 2026

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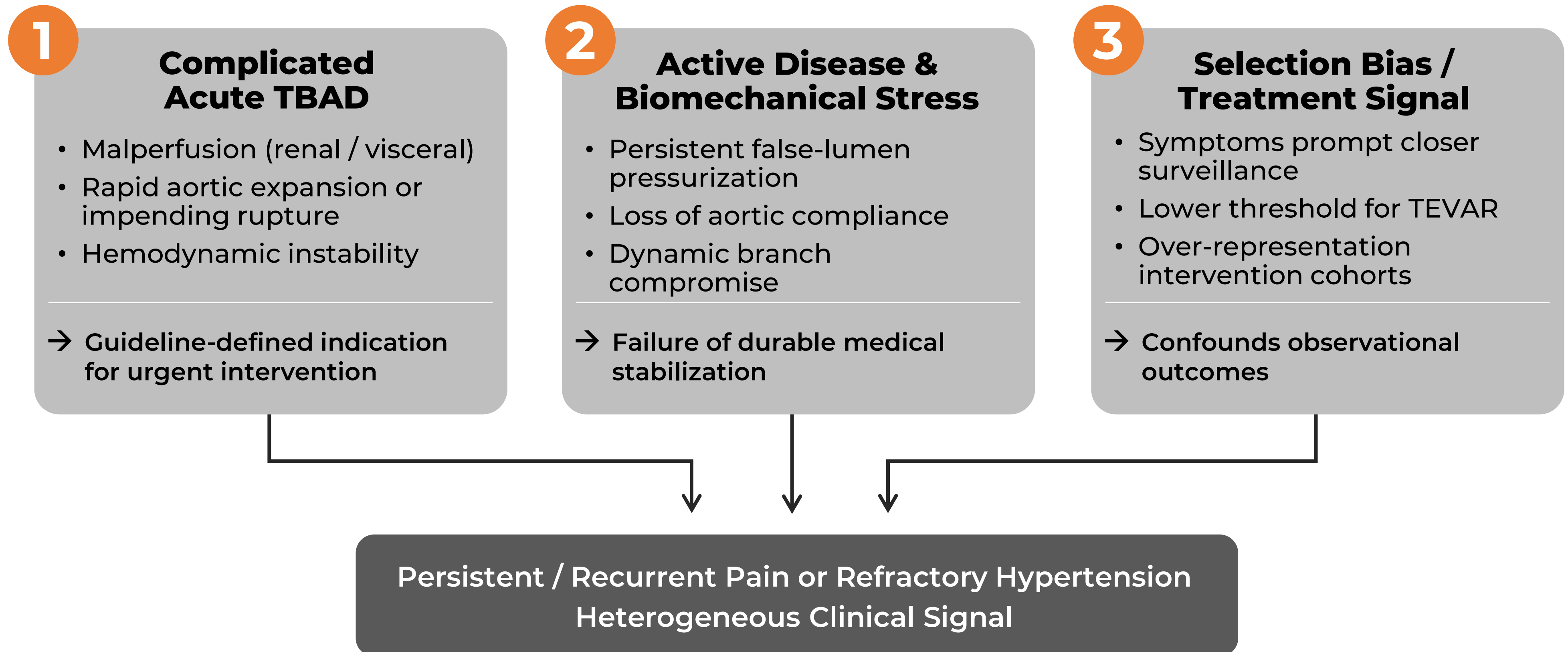
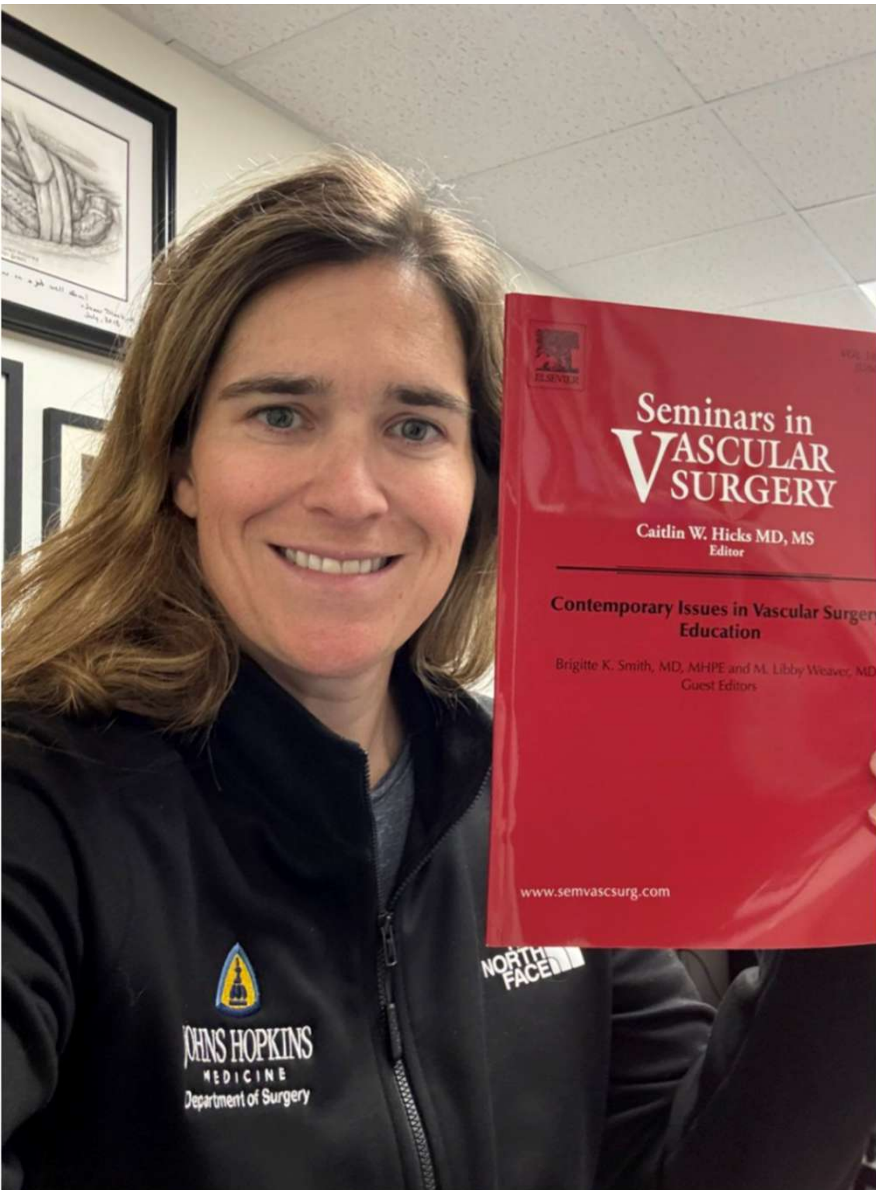

Persistent Pain or Hypertension in Type B Aortic Dissection: A Heterogeneous Clinical Signal
1
Complicated Acute TBAD
Malperfusion (renal / visceral)
Rapid aortic expansion or impending rupture
Hemodynamic instability
Guideline-defined indication for urgent intervention
2
Active Disease & Biomechanical Stress
Persistent false-lumen pressurization
Loss of aortic compliance
Dynamic branch compromise
Failure of durable medical stabilization
3
Selection Bias / Treatment Signal
Symptoms prompt closer surveillance
Lower threshold for TEVAR
Over-representation intervention cohorts
Confounds observational outcomes
Persistent / Recurrent Pain or Refractory Hypertension
Heterogeneous Clinical Signal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