MORE NEW DEVELOPMENTS REGARDING TBADS AND TEVAR: NEED FOR AND TIMING OF TEVAR FOR ACUTE UNCOMPLICATED TYPE B AORTIC DISSECTION (UTBADS)

Fate of medically managed acute TBADs: a plea for early repair in most patients - including those who appear uncomplicated

Fabio Verzini MD, PhD, FEBVS
Director of Vascular Surgery Unit,
University of Turin,
Città della Salute e della Scienza, Turin, Italy

UNIVERSITÀ DI TORINO

Disclosure

Speaker name: Prof. Fabio Verzini

- ❑ I have the following potential conflicts of interest to report:
  - ❑ **X Receipt of grants/research support from Cook Medtronic**
  - ❑ **X Receipt of honoraria and travel support from Jotec Terumo Bayer Gore**
  - ❑ Participation in a company-sponsored speaker bureau
  - ❑ Employment in industry
  - ❑ Shareholder in a healthcare company
  - ❑ Owner of a healthcare company
- ❑ I do not have any potential conflict of interest

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CLINICAL PRACTICE GUIDELINE

2022 ACC/AHA Guideline for the Diagnosis and Management of Aortic Disease

A Report of the American Heart Association/American College of Cardiology Joint Committee on Clinical Practice Guidelines

Developed in collaboration with and endorsed by the American Association for Thoracic Surgery, American College of Radiology, Society of Cardiovascular Anesthesiologists, Society for Cardiovascular Angiography and Interventions, Society of Thoracic Surgeons, and Society for Vascular Surgery

Endorsed by the Society of Interventional Radiology and Society for Vascular Medicine

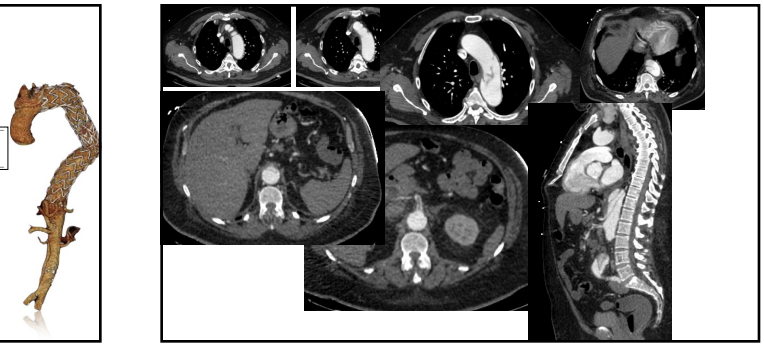
High Risk:

2b	B-R

3. In patients with uncomplicated acute type B aortic dissection who have high-risk anatomic features (Table 28), endovascular management may be considered.[A,B]

TABLE 28 High-Risk Features in Uncomplicated Acute Type B Aortic Dissection[B]

High-Risk Imaging Findings
Maximal aortic diameter ≥40 mm
False-lumen diameter ≥20-22 mm
Entry tear >10 mm
Entry tear on lesser curvature
Increase in total aortic diameter of ≥5 mm between serial imaging studies
Bloody pleural effusion
Imaging-only evidence of malperfusion
High-Risk Clinical Findings
Refractory hypertension despite ≥3 different classes of antihypertensive medications at maximal recommended or tolerated doses
Refractory pain persisting >12 h despite maximal recommended or tolerated doses
Need for readmission



Our study

- Retrospective
- Single center: "AOU Città della Salute e della Scienza di Torino"
- May 2014 – August 2024

Inclusion criteria:

- Type B dissection
- Iperacute, acute, subacute
- Imaging follow-up at 30-days

Exclusion criteria:

- Type A dissection
- Chronic type B dissection
- IMH, PAU
- No imaging follow-up at 30-days

Data collection

- Demographics and pre-operative characteristics
- Clinical and radiological presentation →
- Treatment choice
- Follow-up → 30 dd, 3-6-12 mnths, long term

Uncomplicated

High Risk Features ←

Complicated

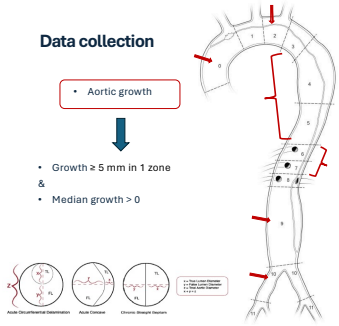
- Aortic arch morphology;
- Extension of dissection;
- Involvement of SAT, visceralis, renals, iliac axes;
- Entry tear location and dimensions;
- Maximum aortic diameter;
- Maximum diameter of TL and FL;
- FL thrombosis;
- Pleural effusion;
- Malperfusion (clinical or radiographic);
- Aortic rupture.

Data collection

- Aortic growth
  - Growth ≥ 5 mm in 1 zone
  - &
  - Median growth > 0
- Aortic remodeling

Positive:

- False lumen reduction in maximal diameter and no growth in total aortic diameter;
- True lumen expansion in maximal diameter and no growth in total aortic diameter;
- Total aortic maximal diameter reduction with variable changes in true and false lumen diameters



Results

- 59 patients (76.3% M)
- Mean age 63.8 ± 12.7 y

Uncomplicated	6 (10.1%)
High Risk Features	45 (76.3 %)
Complicated	8 (13.6%)

Demographics and pre-operative characteristics

	Total (n=59) No. (%)	Uncomplicated (n=6) No. (%)	High risk (n=45) No. (%)	Complicated (n=8) No. (%)	p
Male sex	46 (78.3)	4 (66.7)	35 (77.8)	7 (87.5)	0.35
Age	63.8 ± 12.7	56.3 ± 11.0	63.9 ± 12.8	66.5 ± 13.1	0.30
Ipertension	44 (74.5)	5 (83.3)	31 (68.9)	8 (100)	0.64
Dyslipidemia	10 (16.9)	1 (16.7)	7 (15.6)	2 (25.0)	0.18
Diabetes	2 (3.3)	0	2 (4.4)	0	0.92
Smoking					
Ex	13 (22)	0	10 (22.2)	3 (37.5)	
Current	24 (40.7)	2 (33.3)	19 (42.2)	3 (37.5)	
Total	37 (62.7)	2 (33.3)	29 (64.4)	6 (75.0)	0.13
Atrial fibrillation	10 (16.9)	0	8 (17.8)	2 (25.0)	0.24
Ischemic heart disease	5 (8.4)	0	3 (6.7)	2 (25.0)	0.08
Genetic Aunthopatie	3 (5.1)	1 (16.7)	2 (4.4)	0	0.18
COPD	11 (18.6)	2 (33.3)	7 (15.6)	2 (25.0)	0.79
OSAS	7 (11.9)	0	6 (13.4)	1 (12.5)	0.63
Chronic renal failure	5 (8.5)	0	4 (8.9)	1 (12.5)	0.69
Drug addiction	2 (3.3)	1 (16.7)	1 (2.2)	0	0.15
History of AAA	3 (5.1)	0	3 (66.7)	0	0.61

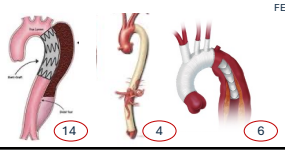
Treatment choice

- Uncomplicated → BMT: 6/6
- HRF → BMT: 29/45 (64%)
  - +Surgery: 16/45 (36%)

TEVAR	8
OPEN TAA	3
FET	5

- Complicated → +Surgery: 8/8

TEVAR	6 x malperfusion
OPEN TAAA	1 x rupture
FET	1 x malperfusion



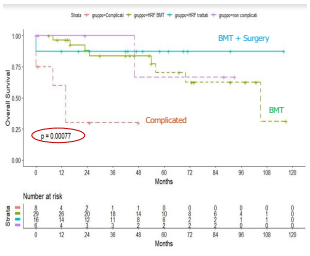
Short term mortality

Group	No.	30-day mortality No. (%)	p
Uncomplicated	6	0 (0%)	
HRF, BMT	29	0 (0%)	0.05
HRF, BMT +surgery	16	2 (12.5%)	
Complicated	8	2 (25%)	
Total	59	4 (6.8%)	

- 1 hybrid (FET + TEVAR)
- 1 open
- 1 open
- 1 TEVAR + fen → aortic rupture

TEVAR 1 /14 (7.1%)

Long-term mortality

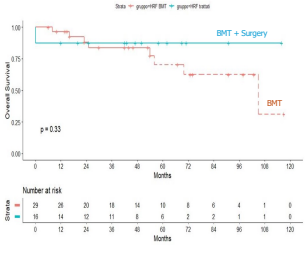


Overall mortality (crude rate)

Group	No.	Long-term mortality No. (%)	p
Uncomplicated	6	1 (16.7%)	
HRF, BMT	29	8 (27.6%)	0.06
HRF, BMT+surgery	16	2 (12.5%)	
Complicated	8	5 (62.5%)	
Total	59	16 (27%)	

Clinical follow-up: median 44 months

Long-term mortality - HRF



Overall mortality

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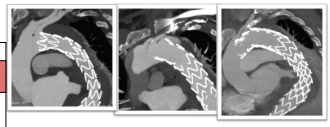
HRF, BMT + surgery	16	2 (12.5%)	
Complicated	8	5 (62.5%)	
Total	59	16 (27%)	

Long-term interventions/reinterventions

Long-term interventions/reinterventions

Group	No.	Intervention/ Reintervention No. (%)	p
Uncomplicated	6	0 (0%)	
HRF, BMT	29	11 (37.9%)	
HRF, BMT +surgery	16	6 (37.5%)	0.17
Complicated	8	1 (12.5%)	
Total	59	18 (30.5%)	



- HRF BMT: TEVAR 3; Renal stent 1; Open TAAA 2; FET 3; FET +F/B EVAR 2
- HRF BMT +Surgery: re-TEVAR 2; EVAR 1; LSA embolization 1; Open TAA 2; Infection 1; Type 1 EL 1

Aortic growth

"More than 60% of patients with aortic dissection, regardless of initial treatment modality, will develop aneurysmal growth during the next 5 years"

2020 Reporting Standards

Abdominal aortic growth (zone 6-10)

Group	No.	Growth ≥ 5 mm No. (%)	p
BMT	35	11 (31.4%)	
+Surgical treatment	20	7 (35.0%)	0.78
Total	55	18 (32.7%)	

Thoracic aortic growth (zone 2-5)

Group	No.	Growth ≥ 5 mm No. (%)	p
BMT	35	20 (57.1%)	
+Surgical treatment	18	4 (22.2%)	0.01
Total	53	24 (45.3%)	

Aortic remodeling

"More than 60% of patients with aortic dissection, regardless of initial treatment modality, will develop aneurysmal growth during the next 5 years"

2020 Reporting Standards

Positive aortic remodeling

Group	No.	Incidence No. (%)	p
BMT	35	6 (17%)	
+Surgical treatment	20	10 (50%)	0.009
Total	55	16 (29%)	

Conclusions

- Truly uncomplicated TBAD are rare
- Early treatment in Hi-Risk UTBADS seems associated with better mid-term survival and positive remodeling
- Results of trials eagerly awaited