

How to deal with: Acute Aortic Dissection

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Disclosure of Interest

Disclosure

Speaker name:

■ I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Shareholder in a healthcare company
- Owner of a healthcare company
- Other(s)
- **X** I do not have any potential conflict of interest



58 year old male patient presented to the ophthamology department with <u>amaurosis fugax</u>

- Past medical history unremarkable
- No medication

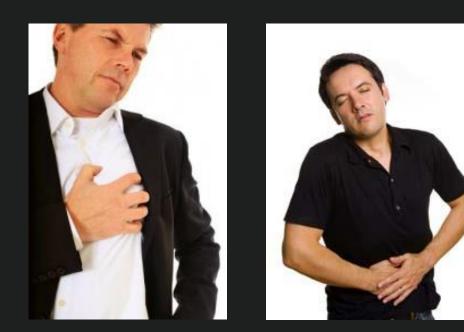










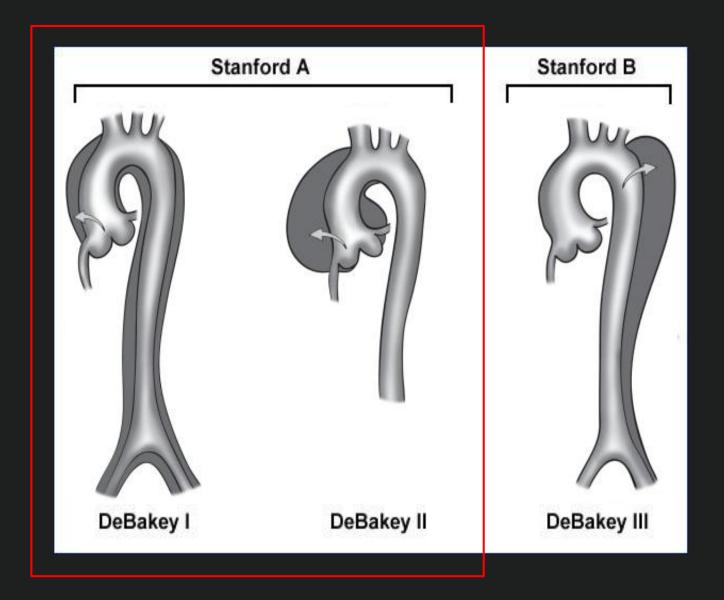






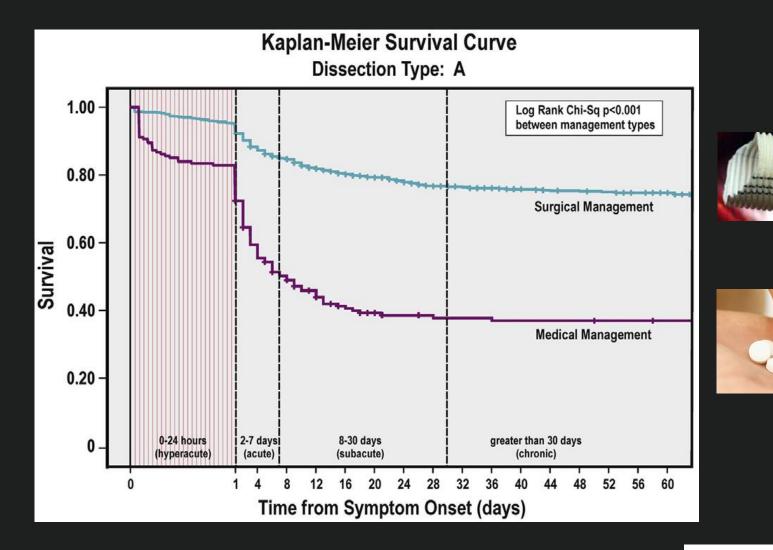






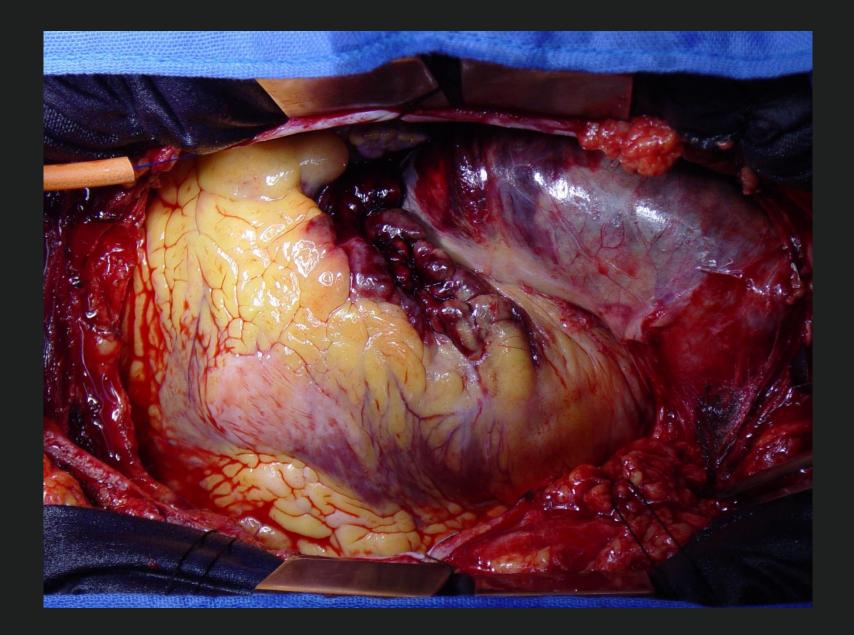


International Registry of Aortic Dissection (IRAD)

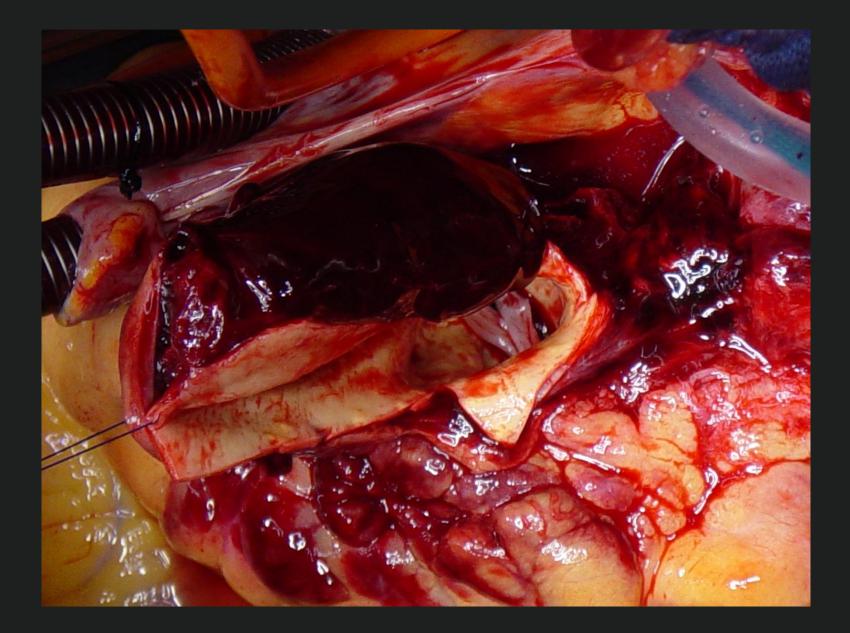


Booher et al. Am J Med 2013





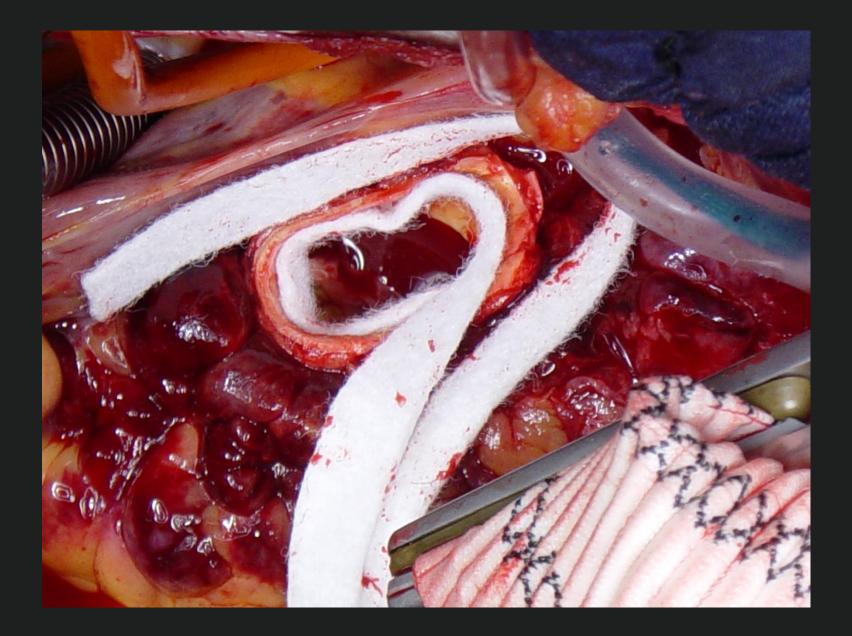




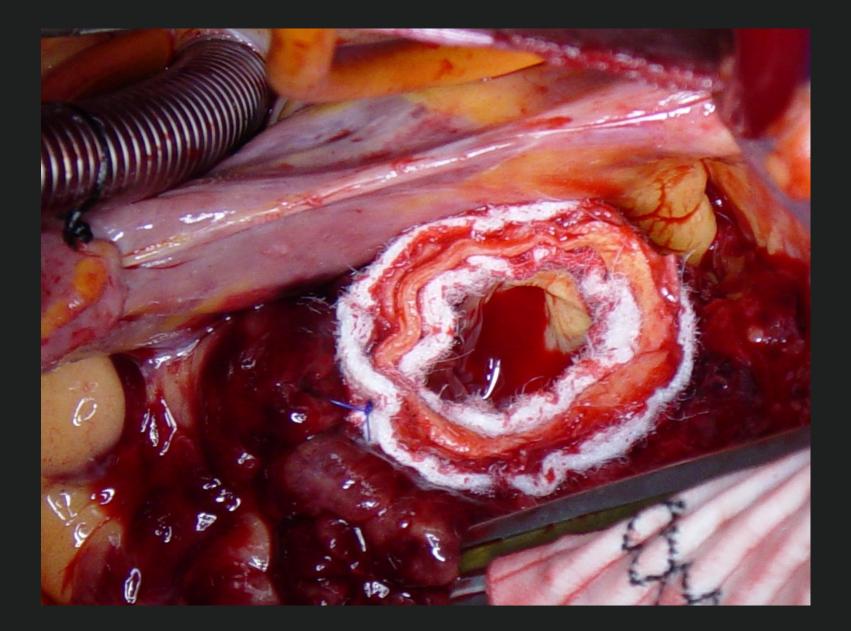




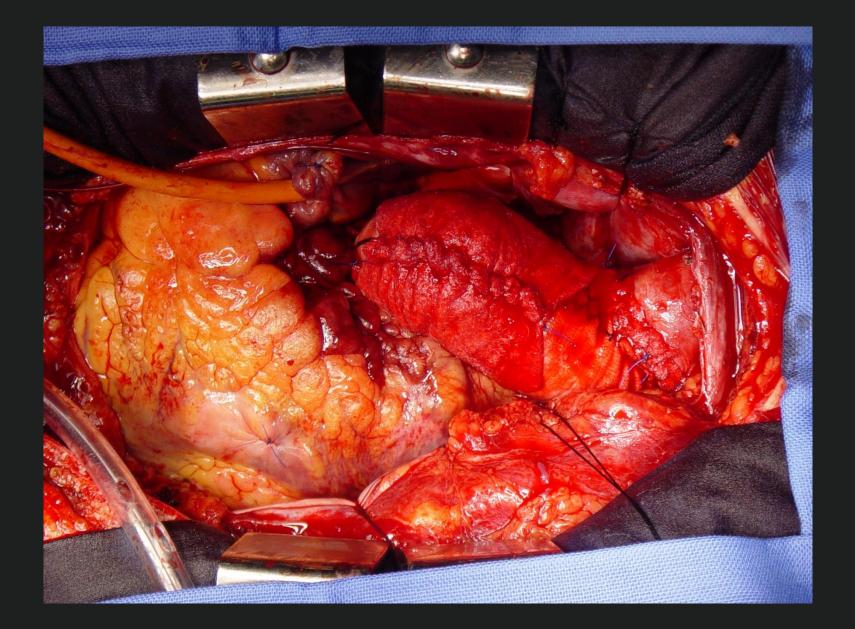










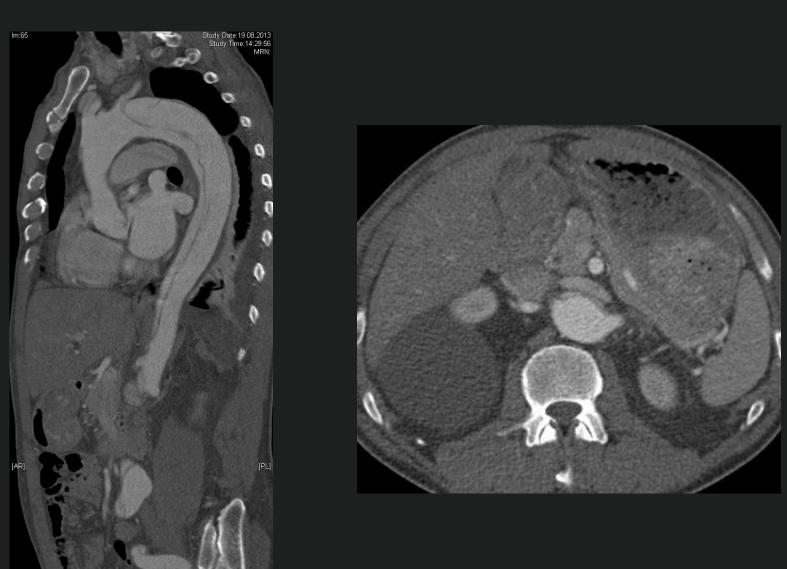




65 year old male patient presented with **back pain**

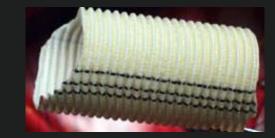
- Arterial hypertension
- Smoking history



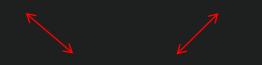




Alternatives



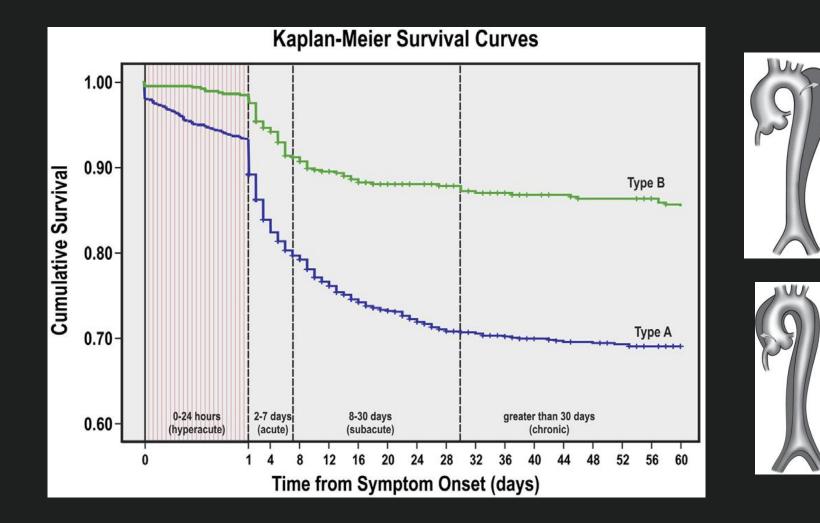








International Registry of Aortic Dissection (IRAD)



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Open surgery vs. TEVAR for acute type B dissections: early mortality

	open surgery TEVAR		R	Odds Ratio		Odds Ratio		
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% C	M-H, Rand	om, 95% Cl
Brunt, elective NIS 2011	16	282	9	282	26.2%	1.82 (0.79, 4.20] .	
Brunt, emergent NIS 2011	173	991	107	991	41.7%	1.75 [1.35, 2.26	j]	+
Fattori, IRAD 2008	20	59	5	43	20.5%	3.90 [1.33, 11.44	1	
Zeeshan, 2010	8	20	2	45	11.6%	14.33 [2.68, 76.63	1]	
Total (95% CI)		1352		1361	100.0%	2.66 [1.37, 5.17	1	•
Total events	217		123					
Heterogeneity: Tau ² = 0.26;	Chi ² = 7.71	. df = 3	(P = 0.05)); I ² = 6	1%			10 100
Test for overall effect: Z = 2.8							0.01 0.1 Favors open surgery	1 10 100 Favors TEVAR



Fattori et al. JACC 2013



Medical therapy vs. TEVAR for acute type B dissections: early mortality

	medical therapy		TEVAR		Odds Ratio		Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Fixed, 95% CI	M-H, Fixed, 95% Cl
Chemelli-Steingruber 2010	3	50	5	38	22.0%	0.42 [0.09, 1.89]	
Fattori, IRAD 2008	34	390	5	43	33.9%	0.73 [0.27, 1.97]	
Garbade 2010	7	84	9	46	44.0%	0.37 [0.13, 1.08]	
Total (95% CI)		524		127	100.0%	0.50 [0.27, 0.95]	•
Total events	44		19				
Heterogeneity: Chi ² = 0.87, df	= 2 (P = 0.65	i); l ² = 09	6				
Test for overall effect: Z = 2.11	l (P = 0.03)						0.01 0.1 1 10 100 Favors medical Favors TEVAR





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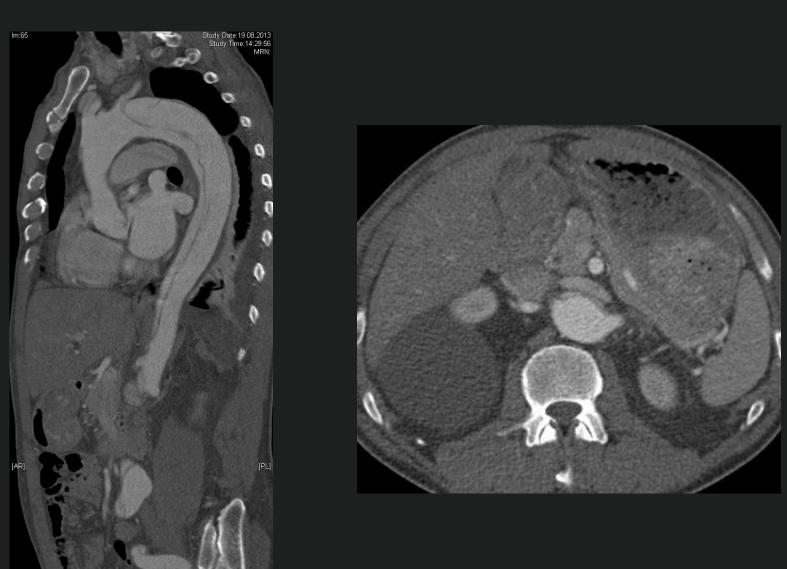
Which medication is best for AAD?

- Anxiolytics like midazolam?
- Antihypertensives like ß-blockers?
- Antiplatelet agents like aspirin?
- Anticoagulants like warfarin?



Recommendation 13	Class	Level of evidence
Medical therapy should always be part of the treatment of patients with acute type B dissection	1	С
Recommendation 14		
In patients with acute type B aortic dissection, β-blockers should be considered as the first line of medical therapy	lla	С
Recommendation 15		
In patients with acute type B aortic dissection who do not respond or are intolerant of β -blockers, calcium channel antagonists and/or renin-angiotensin inhibitors may be considered as alternatives or complementaries	llb	C







Best endovascular strategy for AAD?

- Stent-grafting of the proximal entry alone?
- Endovascular fenestration for the visceral segment?
- PETTICOAT technique?

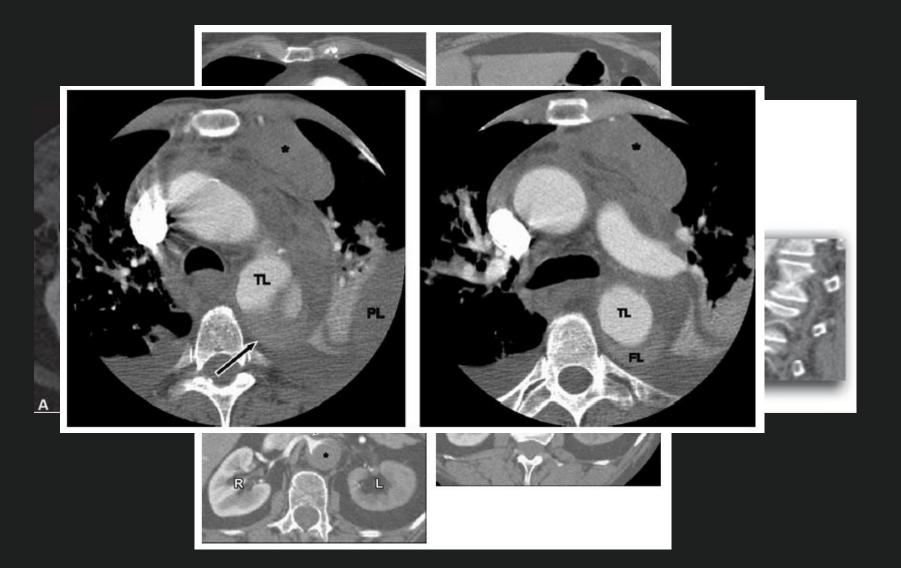




Recommendation 16	Class	Level of evidence
In patients with complicated acute type B aortic dissection,	1	С
endovascular repair with thoracic endografting should be the first		
line intervention		
Recommendation 17		
In complicated acute type B aortic dissection, endovascular	lla	С
fenestration should be considered to treat malperfusion		



"Complicated" type B Dissection





Recommendation 19	Class	Level of evidence
In acute complicated type B aortic dissection, open repair should be	lla	С
considered as an alternative to endovascular therapy following		
failure of endovascular management or where endovascular		
interventions are contraindicated		













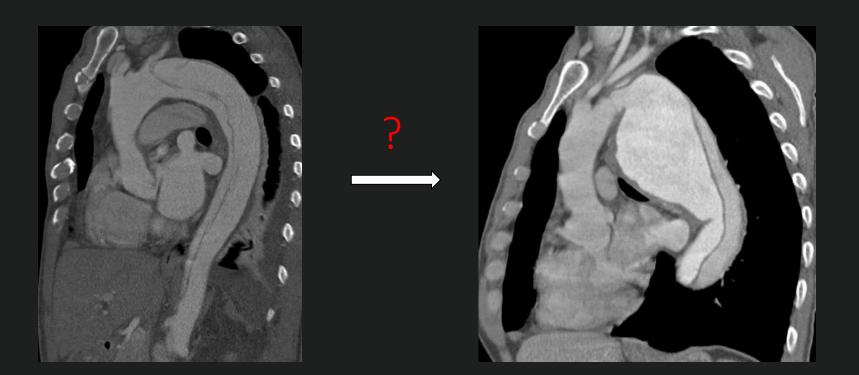
Acute type B - dissection Uncomplicated Complicated

Therapeutic algorithm



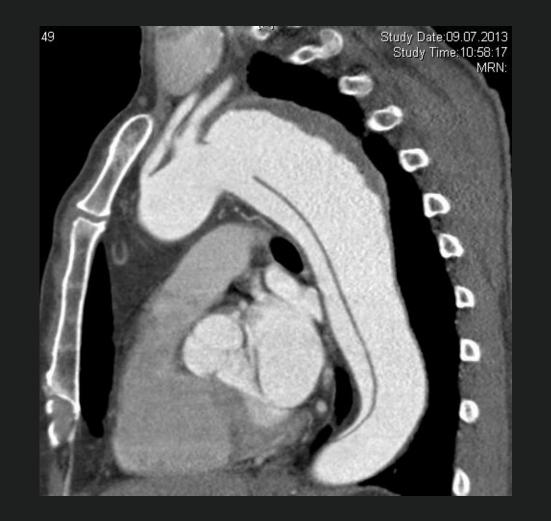
Subacute: 2-6 weeks

Chronic: > 6 weeks





Large Entry

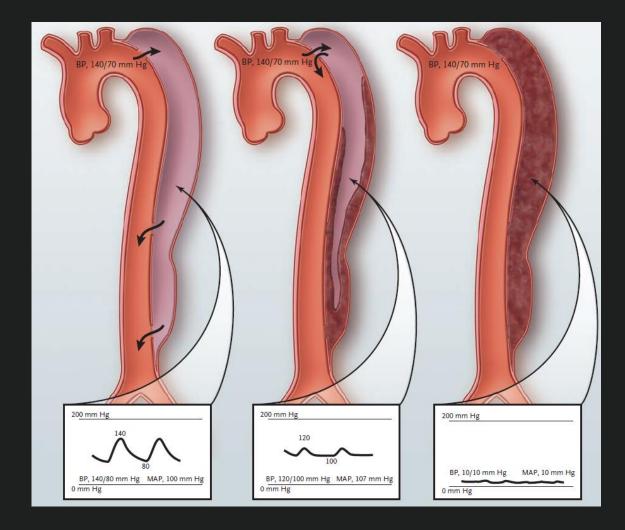


≥10 mm

Evangelista et al. Circulation 2012



Partial thrombosis



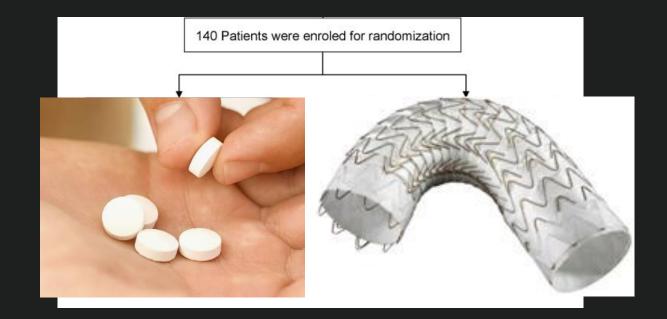
Tsai et al. N Engl J Med 2007





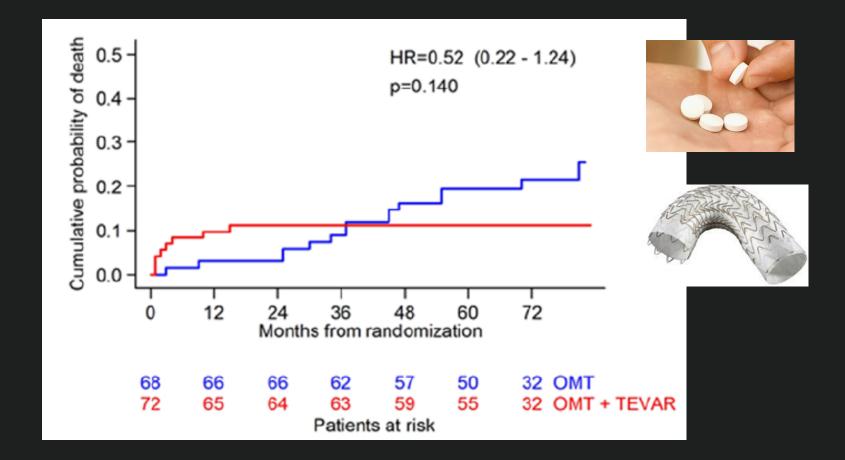


Randomized Comparison of Strategies for Type B Aortic Dissection : The INvestigation of STEnt Grafts in Aortic Dissection (INSTEAD) Trial





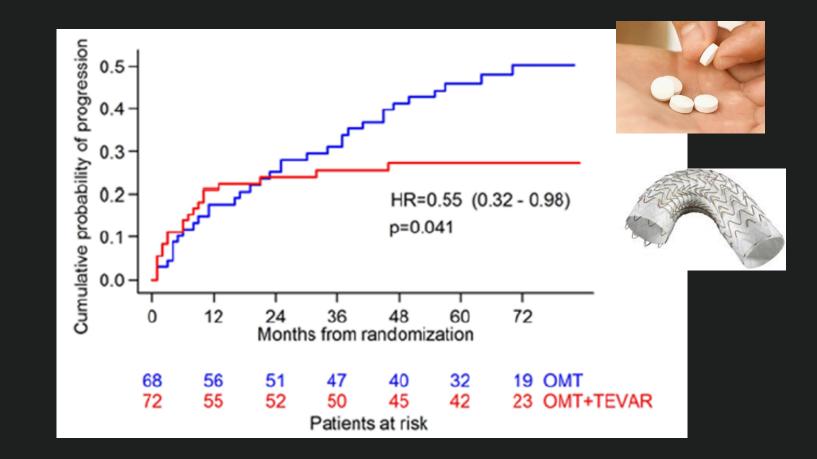
INSTEAD Trial: 5-year results



Nienaber et al. Circ Cardiovasc Interv 2013



INSTEAD Trial: 5-year results



Nienaber et al. Circ Cardiovasc Interv 2013



Recommendation 18		
To prevent aortic complications in uncomplicated acute type B aortic	llb	В
dissection, early thoracic endografting may be considered selectively		



Therapeutic algorithm

