

## Supplemental Online Content

Harris KM, Nienaber CA, Peterson MD, et al. Early mortality in type A acute aortic dissection: insights from the International Registry of Acute Aortic Dissection. *JAMA Cardiol*. Published online August 24, 2022. doi:10.1001/jamacardio.2022.2718

**eTable 1.** Presenting signs and symptoms

**eTable 2.** Imaging studies

**eTable 3.** Key differences between surgically managed patients and those who died waiting

**eTable 4.** Cox proportional hazard analysis for patients who died awaiting surgery

**eFigure 1.** Survival between early and later years separated by management type

**eFigure 2.** Time to surgery

This supplemental material has been provided by the authors to give readers additional information about their work.

eTable 1. Presenting signs and symptoms

	Intended Surgery	Medical Management	p-value
Abrupt onset pain	3713/4395 (84.5%)	305/395 (77.2%)	<0.001
Severe or worst/ever pain	3365/3667 (91.8%)	267/303 (88.1%)	0.029
Chest pain	4111/4826 (85.2%)	315/430 (73.3%)	<0.001
Head or neck pain	1104/3941 (28.0%)	72/369 (19.5%)	<0.001
Back pain	1833/4118 (44.5%)	188/403 (46.7%)	0.410
Abdominal pain	1006/4001(25.1%)	119/387 (30.7%)	0.016
Syncope	739/4192 (17.6%)	78/398 (19.6%)	0.326
Presenting hypotensive	746/4725 (15.8%)	71/447 (15.9%)	0.958
Presenting shock	494/4725 (10.5%)	46/447 (10.3%)	0.914
Presenting AI§	1150/3617 (31.8%)	71/375 (18.9%)	<0.001
Pulse deficits present	964/2775 (34.7%)	88/293 (30.0%)	0.107
Pericardial friction rub	67/3827 (1.8%)	3/400 (0.8%)	0.136
Ischemic peripheral neuropathy	253/4069 (6.2%)	10/407 (2.5%)	0.002
Ischemic spinal cord damage	47/4020 (1.2%)	7/399 (1.8%)	0.310
Signs of CVA	369/4260 (8.7%)	45/413 (10.9%)	0.127
Ischemic lower extremity	499/4122 (12.1%)	36/409 (8.8%)	0.048
Coma/altered consciousness	395/4170 (9.5%)	80/415 (19.3%)	<0.001
Congestive heart failure	311/4197 (7.4%)	44/415 (10.6%)	0.020

§AI: aortic insufficiency, ||CVA: cerebrovascular accident

eTable 2. Imaging studies

	Intended Surgery	Medical Management	p-value
<i>CXR</i> ‡			
Normal	873/2762 (31.6%)	61/322 (18.9%)	<0.001
Widening mediastinum	1073/2037(52.7%)	153/282 (54.3%)	0.618
Abnormal aortic contour	812/1946(41.7%)	121/268 (45.1%)	0.287
Displacement/calcification of ao.	100/1894 (5.3%)	22/255 (8.6%)	0.030
Pleural effusion > minor	217/1962 (11.1%)	54/267 (20.2%)	<0.001
<i>ECG</i>			
Normal	1437/3774 (38.1%)	90/374 (24.1%)	<0.001
Ischemia	439/2619 (16.8%)	48/312 (15.4%)	0.537
Infarction, new Qs/ST elevation	264/2633 (10.0%)	23/310 (7.4%)	0.143
Infarction, old Qs	137/2575 (5.3%)	33/310 (10.6%)	<0.001
Non-specific ST-T changes	1200/2695 (44.5%)	166/321 (51.7%)	0.014
LVH	597/2631 (22.7%)	67/307 (21.8%)	0.731
<i>Diagnostic imaging</i>			
True IMH#	213/4382 (4.9%)	44/402 (10.9%)	<0.001
Site of most proximal extent			
Root	2266/4017 (56.4%)	180/376 (47.9%)	0.001
STJ**	439/4017 (10.9%)	31/376 (8.2%)	0.107
Ascending	1196/4017 (29.8%)	132/376 (35.1%)	0.031
Arch	76/4017 (1.9%)	26/376 (6.9%)	<0.001
Site of most distal extent			
Ascending	450/3472 (13.0%)	52/329 (15.8%)	0.145
Arch	620/3472(17.9%)	57/329 (17.3%)	0.810
LSC††	128/3472 (3.7%)	12/329 (3.6%)	0.971
Descending	731/3472 (21.1%)	77/329 (23.4%)	0.319
Abdominal	848/3472(24.4%)	99/329 (30.1%)	0.023
False lumen thrombosis			
Patent	1701/2359(72.1%)	117/236 (49.6%)	<0.001
Partial	430/2359 (18.2%)	72/236 (30.5%)	<0.001
Complete	228/2359 (9.7%)	47/236 (19.9%)	<0.001

Site of intimal tear			
Root	279/2569 (10.9%)	9/247 (3.6%)	<0.001
Ascending	1311/2569 (51.0%)	101/247 (40.9%)	0.002
Arch	182/2569 (7.1%)	28/247 (11.3%)	0.015
Descending	59/2569 (2.3%)	9/247 (3.6%)	0.188
Vessel involvement			
Right renal	326/4516 (7.2%)	32/415 (7.7%)	0.712
Left renal	541/4516(12.0%)	50/415 (12.0%)	0.967
Celiac	200/464 (43.1%)	10/18 (55.6%)	0.296
Mesenteric	250/474 (52.7%)	9/19 (47.4%)	0.646
Complete abdominal	171/4516 (3.8%)	21/415 (5.1%)	0.199
Arch	1379/2809(47.4%)	118/304 (38.8%)	0.004
LSC	352/583 (60.4%)	20/31 (64.5%)	0.646
LCC‡‡	35/583 (59.2%)	18/31 (58.1%)	0.902
Brachiocephalic	490/598 (81.9%)	25/32 (78.1%)	0.586
Right coronary	138/923 (15.0%)	5/64 (7.8%)	0.117
Left coronary	53/910 (5.8%)	1/63 (1.6%)	0.250
Aortic regurgitation	1674/3201 (55.4%)	118/296 (39.9%)	<0.001
Pericardial effusion	1508/3355 (44.9%)	140/359 (39.0%)	0.031
Periaortic hematoma	552/2787 (19.8%)	61/329 (18.5%)	0.585

§CXR: chest x-ray, ||LVH: left ventricular hypertrophy, #IMH: intramural hematoma, \*\*STJ: Sino tubular junction , ††LSC: left subclavian, ‡‡LCC: left common carotid

eTable 3. Key Differences Between Surgically Managed Patients and Those who Died Waiting

	Surgical Management	Died Awaiting Surgery	p-value
N= 5131	5080 (99%)	51 (1%)	
Age (mean ± SD)	60.3±14.1	64.3±14.7	0.043
Asian race	216/4622 (4.7%)	4/45 (11.1%)	.043
Pulse deficits present	949/2749 (34.5%)	15/26 (57.7%)	0.014
Coma/altered consciousness	384/4130 (9.3%)	11/40 (27.5%)	<0.001
EKG Ischemia	430/2594 (16.6%)	9/25 (36.0%)	0.010
Right renal involvement	316/4470 (7.1%)	10/46 (21.7%)	<0.001
Left renal involvement	530/4470 (11.9%)	11/46 (23.9%)	0.012
Complete abdominal involvement	163/4470 (3.6%)	8/46 (17.4%)	<0.001
Pre procedure complications			
Stroke	183/4347 (4.2%)	5/28 (17.9%)	<0.001
Myocardial infarction	138/2094 (6.6%)	5/16 (31.3%)	<0.001
Mesenteric ischemia/infarction	111/4406 (2.5%)	8/30 (26.7%)	<0.001
Acute renal failure	316/4406 (7.2%)	10/32 (31.3%)	<0.001
Hypotension	860/4429 (19.4%)	25/37 (67.6%)	<0.001
Cardiac tamponade	556/4451 (12.5%)	13/33 (39.4%)	<0.001
Limb ischemia	445/4416 (10.1%)	12/29 (41.4%)	<0.001
Time to death	71 hours	8.9 hours	-

eTable 4. Cox Proportional Hazard Analysis for Patients Who Died Awaiting Surgery

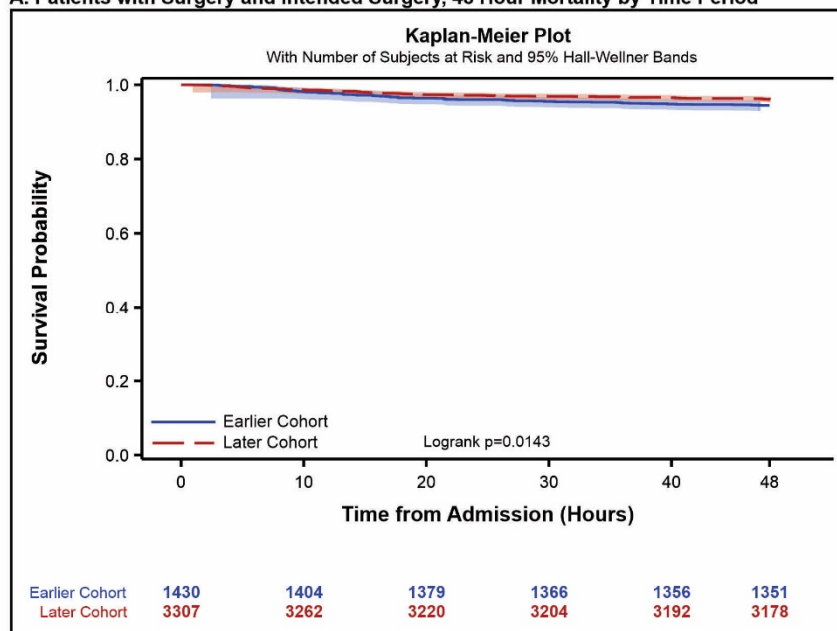
	Hazard Ratio	95% Confidence Interval		p-value
		Lower	Upper	
Presenting hypotension	18.74	2.12	165.80	0.008
Presenting shock	14.17	1.24	162.60	0.033
Pre-procedure myocardial infarction	11.25	2.69	47.03	0.001
Age	1.08	1.01	1.15	0.031

eFigure 1. Survival Between Early and Later Years Separated by Management Type.

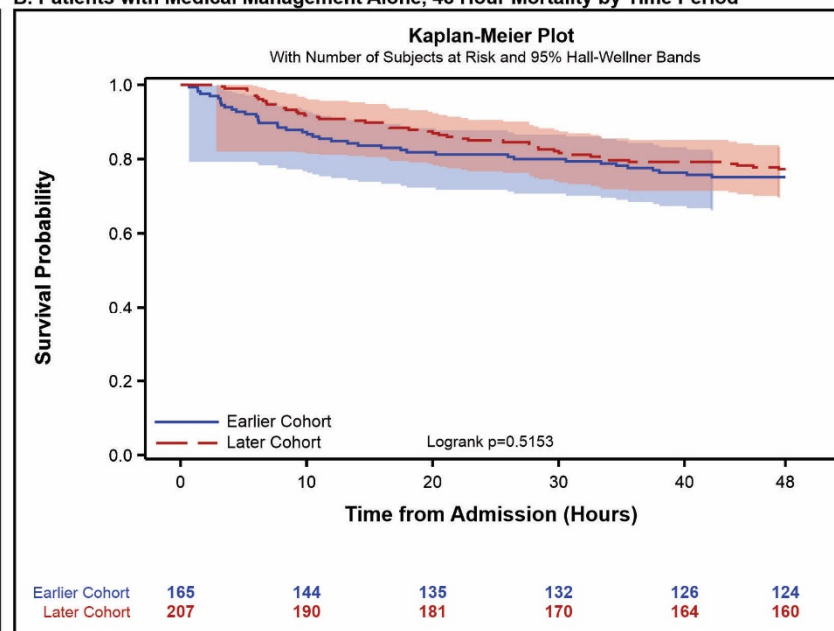
Part A. Kaplan-Meier analysis of 48 hour survival in surgical patients and patients who died awaiting surgery, first 11.5 years versus second 11.5 years of the registry.

Part B. Kaplan-Meier analysis of 48 hour survival in medically managed patients, first 11.5 years versus second 11.5 years of the registry.

**A. Patients with Surgery and Intended Surgery, 48 Hour Mortality by Time Period**



**B. Patients with Medical Management Alone, 48 Hour Mortality by Time Period**



eFigure 2. Time to Surgery.

Cumulative Incidence of Surgery Over Time Within the First 48 Hours Following Admission Among Patients who Ultimately Received Surgery.

