

SUPPLEMENTAL MATERIAL

Table S1. ICD-9-CM code used in the current study.

Variable	Code
Aortic dissection	441.0x
Marfan syndrome	759.82
Hypertension	401.xx-405.xx
Diabetes mellitus	250.xx
Heart failure	428.xx
Old myocardial infarction	410.xx, 412.xx
Peripheral arterial disease	440.0x, 440.2x, 440.3x, 440.8x, 440.9x, 443.xx, 444.0x, 444.22, 444.8x, 447.8x, 447.9x
Atrial fibrillation	427.31
Stroke	430.xx-437.xx
Chronic kidney disease	580.xx-589.xx, 403.xx-404.xx, 016.0x, 095.4x, 236.9x, 250.4x, 274.1x, 442.1x, 447.3x, 440.1x, 572.4x, 642.1x, 646.2x, 753.1x, 283.11, 403.01, 404.02, 446.21
Liver cirrhosis	571.2x, 571.5x, 571.6x
Coagulopathy	286.0-286.9, 287.1, 287.3-287.5, 289.81, 289.82
Chronic obstructive pulmonary disease	491.xx, 492.xx, 496.xx
Respiratory failure	518.xx
Ischemic stroke	433.xx-437.xx
Hemorrhagic stroke	430.xx-432.xx
Dialysis	585.xx (Catastrophic illness card)
Sepsis	038.xx, 790.7
Acute myocardial infarction	410.xx

ICD-9-CM, International Classification of Diseases, Ninth Revision, Clinical Modification code.

Table S2. The baseline characteristics in octogenarians with AAD who underwent type A surgeries, type B surgeries, and who did not undergo surgery.

Variable	Type A surgery (n = 206)	Type B surgery (n = 79)	Nonsurgery (n = 1,957)	P value
Characteristic				
Age, years	83.7±2.7	84.5±3.7	85.4±4.1 ^a	<0.001
Male	89 (43.2)	61 (77.2) ^a	1,174 (60.0) ^{ab}	<0.001
Baseline comorbidity				
Marfan syndrome	0 (0.0)	0 (0.0)	0 (0.0)	NA
Hypertension	141 (68.4)	63 (79.7)	1,530 (78.2) ^a	0.006
Diabetes mellitus	39 (18.9)	8 (10.1)	404 (20.6)	0.066
Heart failure	33 (16.0)	4 (5.1) ^a	349 (17.8) ^b	0.012
Old myocardial infarction	2 (1.0)	6 (7.6) ^a	136 (6.9) ^a	0.004
Peripheral arterial disease	7 (3.4)	9 (11.4) ^a	147 (7.5)	0.034
Atrial fibrillation	31 (15.0)	3 (3.8) ^a	278 (14.2) ^b	0.029
Old stroke	30 (14.6)	8 (10.1)	466 (23.8) ^a	<0.001
Chronic kidney disease	13 (6.3)	7 (8.9)	334 (17.1) ^a	<0.001
Liver cirrhosis	3 (1.5)	2 (2.5)	46 (2.4)	0.707
Coagulopathy	6 (2.9)	1 (1.3)	60 (3.1)	0.653
COPD	21 (10.2)	10 (12.7)	512 (26.2) ^a	<0.001
Previous cardiac surgery	4 (1.9)	1 (1.3)	40 (2.0)	0.888
CCI score	2.7±1.8	2.6±1.8	3.6±2.4 ^{ab}	<0.001
Index year				0.002
2005-2007	42 (20.4)	12 (15.2) ^a	548 (28.0) ^b	
2008-2010	72 (35.0)	22 (27.8)	662 (33.8)	
2011-2013	92 (44.7)	45 (57.0) ^a	747 (38.2) ^b	
In-hospital complications				
Cardiogenic shock and need MCS	22 (10.7)	1 (1.3)	7 (0.4)	<0.001
Respiratory failure	60 (29.1)	7 (8.9) ^a	197 (10.1) ^a	<0.001
New onset stroke	16 (7.8)	4 (5.1) ^a	76 (3.9) ^a	0.030
New onset ischemic stroke	15 (7.3)	4 (5.1)	64 (3.3) ^a	0.012
New onset hemorrhagic stroke	1 (0.5)	0 (0.0)	13 (0.7)	0.737
Re-exploration for bleeding	14 (6.8)	1 (1.3)	0 (0.0) ^a	<0.001
Dialysis (<i>de novo</i> dialysis)	40 (19.4)	5 (6.3) ^a	29 (1.5) ^{ab}	<0.001

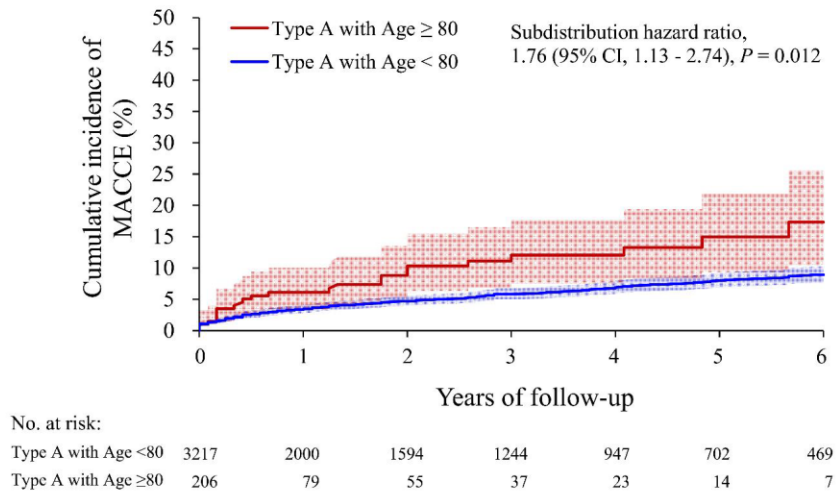
Variable	Type A surgery (<i>n</i> = 206)	Type B surgery (<i>n</i> = 79)	Nonsurgery (<i>n</i> = 1,957)	<i>P</i> value
Sepsis	20 (9.7)	0 (0.0) ^a	132 (6.7)	0.014
Deep wound infection	11 (5.3)	0 (0.0)	0 (0.0) ^a	<0.001
In hospital mortality	70 (34.0)	5 (6.3) ^a	349 (17.8) ^{ab}	<0.001
ICU duration (days)	12.9±14.9	6.6±12.3 ^a	2.4±5.4 ^{ab}	<0.001
In hospital stay	27.9±27.7	22.6±23.4	12.0±16.5 ^{ab}	<0.001
In hospital cost (NTD×10 ⁴)	64.0±37.2	62.7±47.5	8.7±20.1 ^{ab}	<0.001
Follow-up outcome				
All-cause mortality (including in-hospital death)	127 (61.7)	35 (44.3) ^a	1,356 (69.3) ^b	<0.001
Follow-up (years)	1.6±2.1	2.0±1.9	1.7±2.0	0.495
MACCE (AMI/HF/stroke)	23 (11.2)	6 (7.6)	214 (10.9)	0.637
Acute myocardial infarction	3 (1.5)	1 (1.3)	34 (1.7)	0.914
Heart failure	13 (6.3)	1 (1.3)	94 (4.8)	0.204
Stroke	9 (4.4)	4 (5.1)	103 (5.3)	0.858

AMI, acute myocardial infarction; CABG, coronary artery bypass graft; CCI, Charlson comorbidity index; COPD, chronic obstructive pulmonary disease; HF, heart failure; ICU, intensive care unit; MACCE, major adverse cardiac and cerebrovascular event; MCS, mechanical circulatory support system; NTD, New Taiwan dollar.

a, Indicated *P* < 0.05 vs. the type A surgery group.

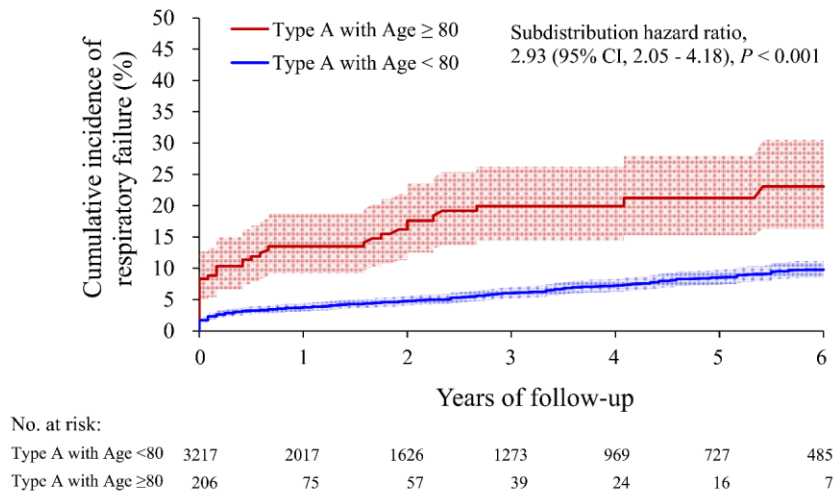
b, Indicated *P* < 0.05 vs. the type B surgery group.

Figure S1. Cumulative incidence of MACCE in type A surgery.



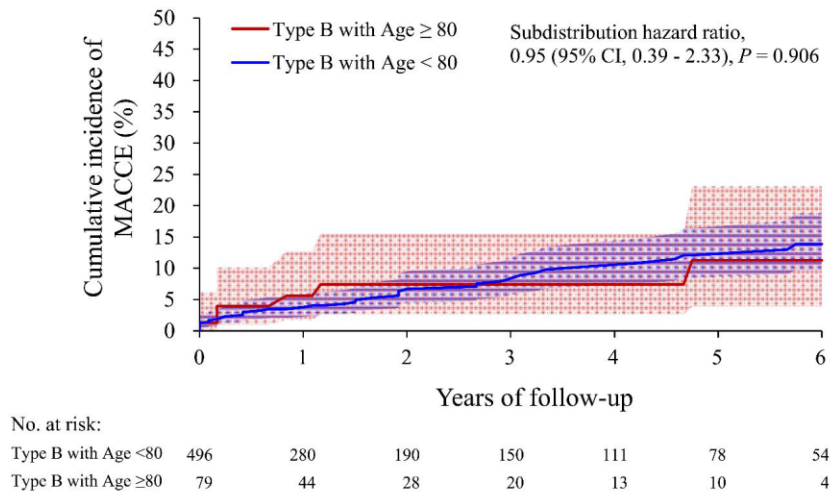
CI, confidence interval. MACCE, major adverse cardiac and cerebrovascular event.

Figure S2. Cumulative incidence of respiratory failure in type A surgery.



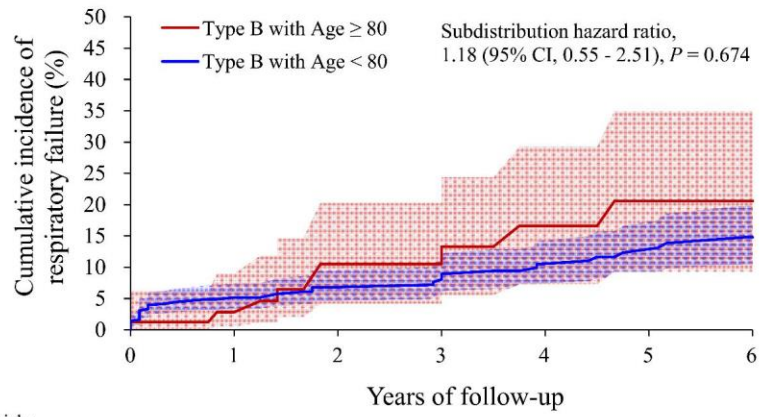
CI, confidence interval.

Figure S3. Cumulative incidence of MACCE in type B surgery.



CI, confidence interval. MACCE, major adverse cardiac and cerebrovascular event.

Figure S4. Cumulative incidence of respiratory failure in type B surgery.



No. at risk:

Type B with Age <80	496	283	197	158	120	83	56
Type B with Age ≥80	79	46	28	20	12	9	3

CI, confidence interval.