Maria Cecilia Hospital
Cotignola

GVM CARE & RESEARCH

Minimally Invasive Surgery For Octogenarians: Is It A Contraindication Or A Prejudice?

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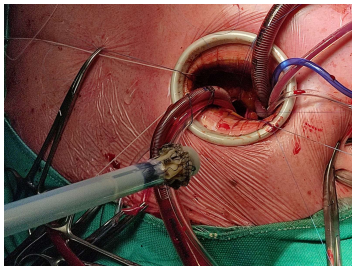
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Background:Nowadays, indication for cardiac surgery in octogenarians has increased, as a result of longer life expectancy. In the meantime, use of minimally invasive techniques is expanding. The aim of the study is to investigate the role of minimally invasive surgery in aging population.

Materials and Methods: Between January 2010 and August 2019, 1674 octogenarian patients underwent cardiac surgery at Maria Cecilia Hospital. This retrospective observational study focused on 626 of them treated though minimally invasive approaches both minithoracotomy or ministernotomy.

Demographics and Clinical Characteristics

Variables	Minimally invasive N=626	Full sternotomy N= 1048
Age (years)	82 ± 2.1	82 ± 2.0
Male	289 (46.2%)	562 (53.6%)
BMI	26.3 ± 3.9	25.9 ± 3.7
Hypertension	480 (76.7%)	844 (80.5%)
Diabetes mellitus	65 (10.4%)	213 (20.3%)
Dyslipidemia	418 (66.8%)	594 (56.7%)
Smoker	172 (27.5%)	322 (30.7%)
NYHA III - IV	255 (40.7%)	411 (39.2%)
COPD	71 (11.3%)	113 (10.8%)
Urgent status	40 (6.4%)	308 (29.4%)
Emergency status	0	28 (2.7%)
Previous cardiac surgery	8 (1.3%)	81 (7.7%)
Creatinine (mg/dL)	1.1 ± 0.4	1.2 ± 3
Ejection fraction	59 ± 10	57 ± 11
Logistic EuroSCORE	9.5 [7.5-12.8]	10.3 [7.1-16.6]
EuroSCORE	8 [7-9]	8 [7-10]

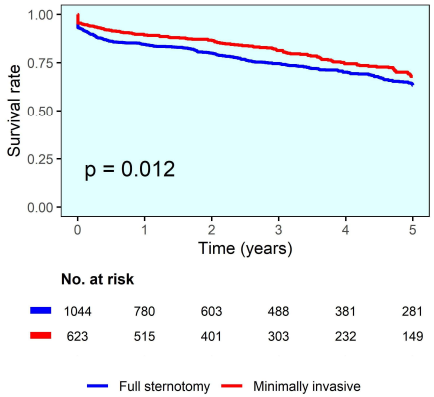




Results:

Operative data

Type of surgery (n° 1674)	Minimally invasive N=626	Full sternotomy N= 1048
Aortic valve surgery (n°716)	504 (70.4%)	212 (29.6%)
Mitral surgery (n°138)	69 (50%)	69 (50%)
CABG (n°292)	20 (6.8%)	272 (93.2%)
Ascending aorta/Bentall (n°104)	15 (14.4%)	89 (85.6%)
Aortic and mitral surgery (n°89)	6 (6.7%)	83 (93.3%)
Mitral and tricuspid surgery (n°30)	8 (26.7%)	22 (73.3%)
Mixoma (n°12)	2 (16.7%)	10 (83.3%)
Valve surgery and CABG (n°293)	2 (0.7%)	291 (99.3%)



Outcome in overall patients population

Variable	Minimally invasive N=626	Full sternotomy N= 1048
Primary outcome		
In-hospital death	25 (3.9)	68 (6.5%)
Secondary outcomes		
Intubation time (minutes)	8 [6-12]	10 [6-18]
Intubation time > 48h	39 (6.2%)	104(9.9%)
RBC transfusion	373 (59.6%)	741 (70.7%)
ICU length of stay (days)	2 [1.9-3]	2 [1.8-4]
Hospital length of stay (days)	8 [6-10]	8 [6-11]
Inotropic support	37 (5.9%)	181 (17.3%)
IABP	4 (0.6%)	5 (0.5%)
Dialysis	7 (1.1%)	46 (4.4%)
Renal insufficiency	25 (4%)	94 (8.9%)
Stroke	9 (1.1%)	18 (1.7%)
Delirium	25 (4%)	86 (8.2%)
Post-operative AF	205 (32.7%)	449 (42.8%)
Permanent pacemaker insertion	20 (3.2%)	31 (2.9%)

Conclusion: **we report a significant case series of minimally invasive cardiac surgery in octogenarians, with encouraging results. Every new technology is helpful and should be assessed and used "ad hoc" in order to get the best results with the least risk**.