

Combined cardiac surgery: Minimally invasive incisions, multiple operations. A case series.

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Background

A minimally invasive approach via mini-thoracotomy has been used at our center. Encouraged by its positive outcomes, this approach has evolved from isolated Mitral Valve Replacement (MVR) or Aortic Valve Replacement (AVR) to more complex cardiac surgeries. Today, it is our preferred choice for a diverse range of procedures.

Methods:

We have performed several types of combined cardiac operations, which include Minimally Invasive Valve Surgery combined with Minimally Invasive Coronary Artery Bypass Grafting, Mini- Bentall procedure combined with Minimally Invasive Direct Coronary Artery Bypass Grafting, and repair of congenital atrial septal defects combined with coronary-pulmonary artery fistula repair on thirteen patients. In this context, we present three distinct types of combined cardiac surgeries, highlighting the viability and practicality of such minimally invasive combined procedures.

Conclusion

Minimally invasive combined cardiac surgery stands as a good minially invasive approach for some cardiac patients. It demonstrates good safety and reliability together with reduced post-operative discomfort and faster return to normalcy.

Case series

1.Minimally invasive valve surgery with coronary artery bypass

- a. Bilateral mini-thoracotomy for combined minimally invasive direct coronary artery bypass and mitral valve repair or replacement (4 cases)
- b. Bilateral mini-thoracotomy for combined minimally invasive direct coronary artery bypass and aortic valve replacement (AVR) (1 case)
- c. Bilateral mini-thoracotomy for combined minimally invasive direct coronary artery bypass and Triple valve surgery (1 case)

2. Mini-Bentall with minimally invasive direct coronary artery bypass (5 cases)

3.Repaired of congenital atrial septal defect combined with coronary-pulmonary artery fistula (2 cases)

Results

Our results indicate that composite minimally invasive surgery demonstrates good stablility. This is evident from our surgical duration, fast patient recoveries, short length of mechanical ventilation and ICU stay, and the infrequent occurrence of postoperative complications.

	Minimally invasive valve surgery with MIDCAB			Mini-Bentall with	Repaired of congenital atrial septal de
	Mini-MVR/MVR+MIDCAB	Mini-AVR+MIDCAB	Mini-MVR+AVR+TVR+MIDCAB	MIDCAB	combined with coronary-pulmonar artery leakage
Preoperative data					
Patients	4	1	1	5	2
Age (years), mean ± SD	62±7	66	61	56	45±16
Male, n (%)	2(50%)	1(100%)	1(100%)	4(80%)	1(50%)
Persistent atrial fibrillation	-	-	-	-	-
Operative time (min)					
CPB, min	169.5±51.7	168	159	185.8	103±9.9
Aortic cross-clamp time, min	97.5±44.6	135	127	129.6	74.5±10.6
Postoperative results					
Postoperative atrial fibrillation	-	-	-	-	-
TIA/stroke	-	-	-	-	-
Surgical re-exploration	-	-	-	-	-
Septicemia, n (%)	-	-	-	-	-
Mortality, n (%)	-	-	-	-	-