



TOTALLY ENDOSCOPIC RESECTION OF RIGHT ATRIUM MYXOMA VIA THREE-PORT ACCESS CARDIAC SURGERY

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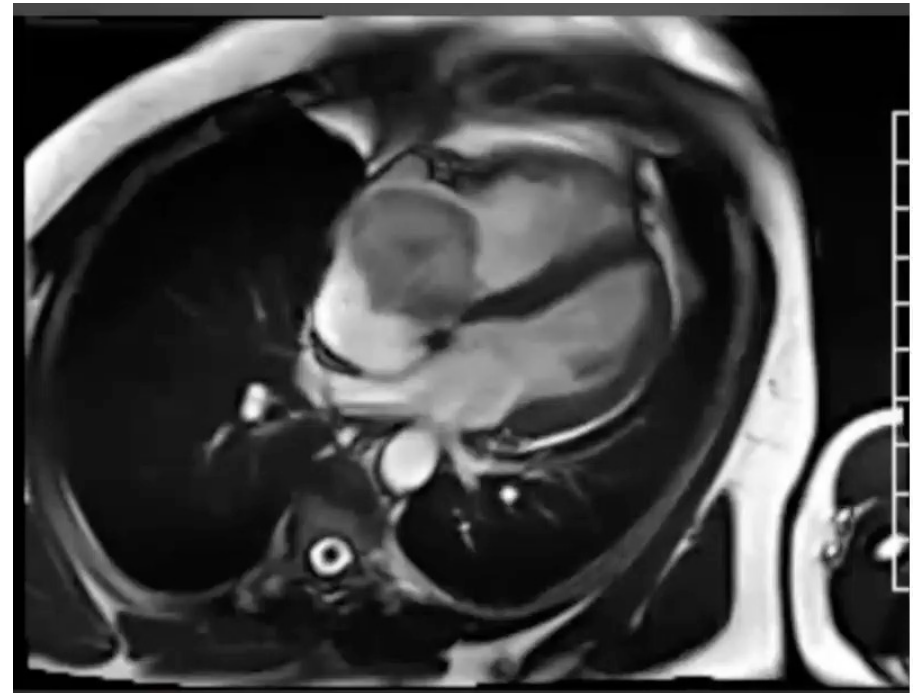
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INTRODUCTION

- **Myxoma:** benign, primary, and rare cardiac tumors
- **Epidemiology:** all ages, female, left atrium, and 15 – 20% of right atrium.
- **Development:** Obstructed tricuspid heart valve, pulmonary embolism.
- **Management:** surgery to resect myxoma.



INTRODUCTION

- Cardiac surgery:

- ❖ The first case was in 1954 (Crafoord)
- ❖ Sternotomy and extracorporeal circulation

- Minimally invasive cardiac surgery (MICS):

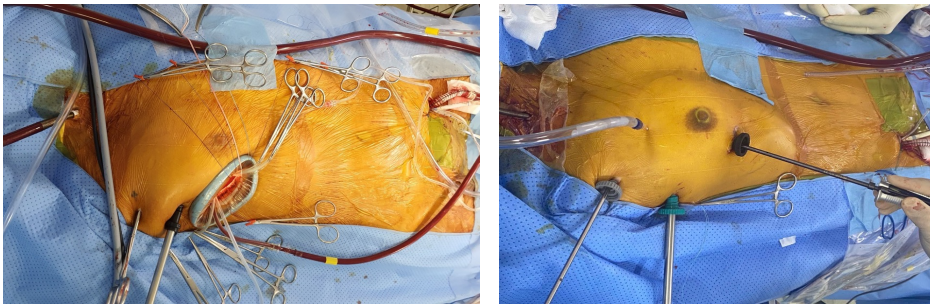
- ❖ Advantages: less pain, early recovery, aesthetics.....
- ❖ In Vietnam: developed increasingly since 2013
- ❖ E Hospital: Totally endoscopic surgery for ASD, VSD

Research	Sternotomy	MICS
C Gao (2010)	0	19
S Yu (2010)	0	12
J Schilling (2012)	40	17
HP Lee (2015)	83	63
G Bianchi (2017)	0	30
NG Dong (2018)	36	30
M Ellouze (2018)	23	20
C Luo (2019)	33	17
E Kadirogullari (2020)	30	16
	245	224



INTRODUCTION

MICS at E Hospital

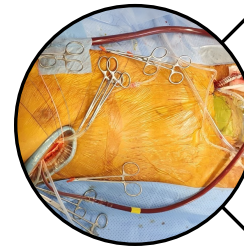


2013

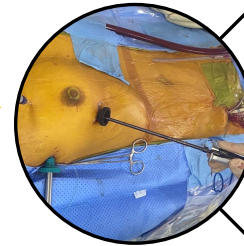
2016

Now

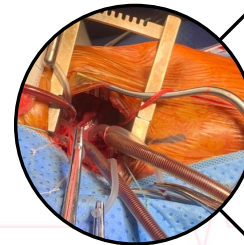
- **MICS** (ASD, Mitral valve, Myxoma)
- Totally endoscopic cardiac surgery (**ECS**) (ASD, myxoma)



MICS: Mitral valve ± tricuspid valve, MIDCAP, redo mitral valve replacement

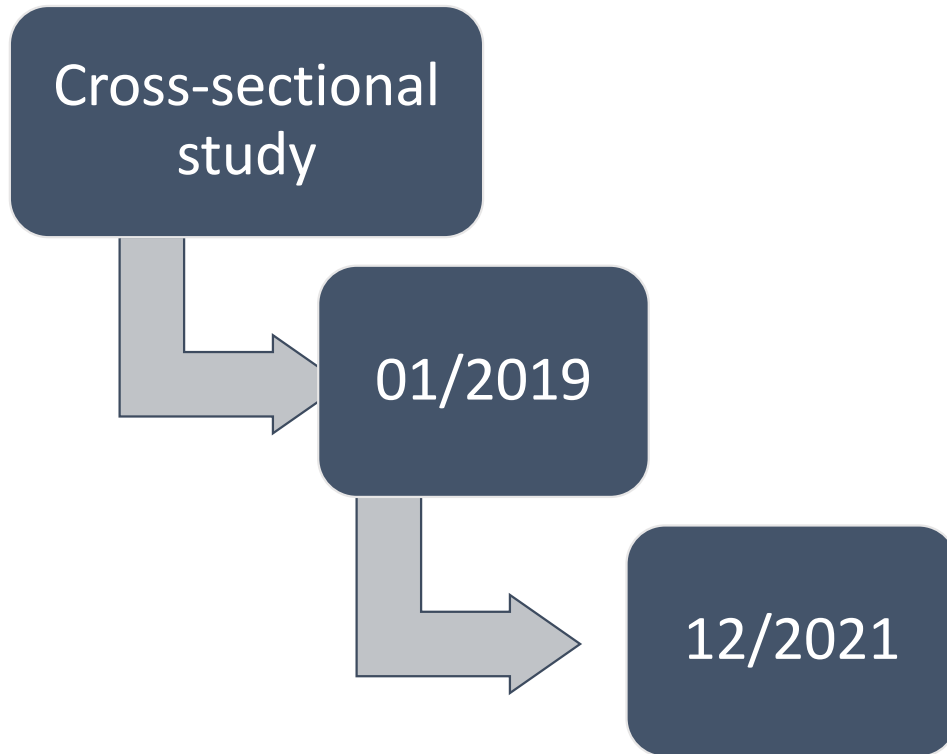


ECS: ASD, myxoma, VSD, pacemaker lead extraction

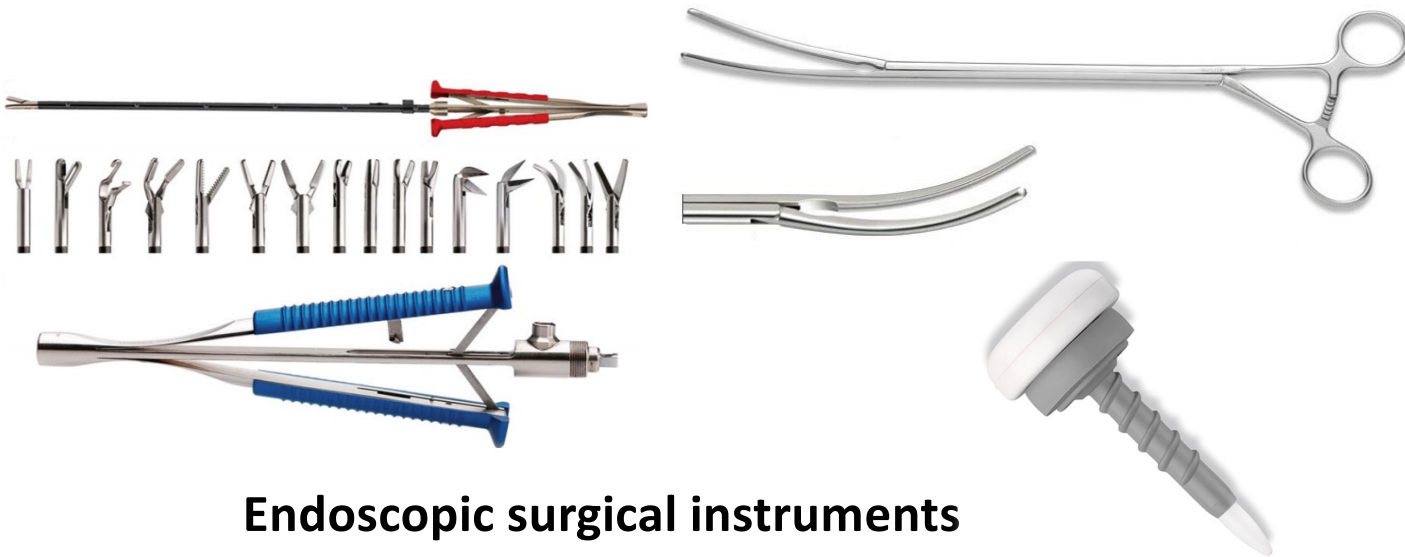


Right axillary approach: ASD, VSD, Tetralogy of Fallot...

METHODS



SURGICAL RESEARCH TOOLS



Endoscopic surgical instruments



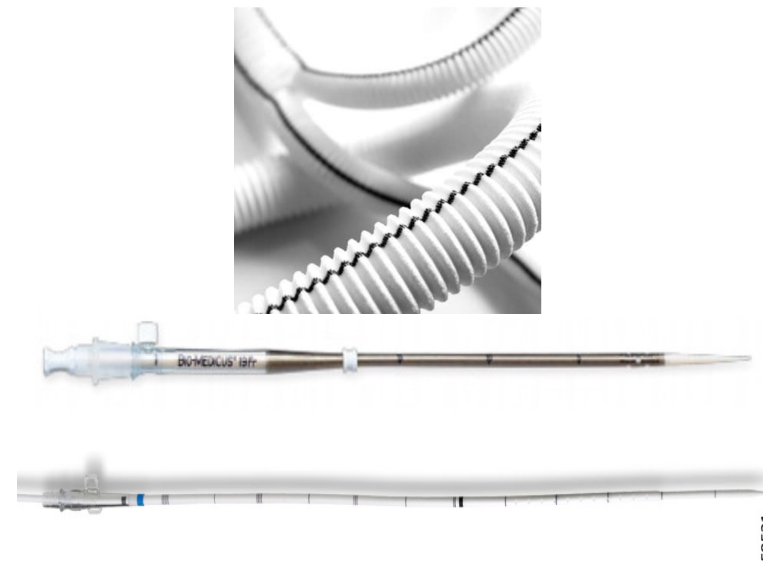
3D Endoscope System



SURGICAL RESEARCH TOOLS



Transesophageal echocardiography



Peripheral Cannulation System



SURGICAL PROCEDURE

INDICATIONS



- Right Atrial Myxoma
- Left atrial myxoma caused obstruction of MV
- Left atrial myxoma with other complications

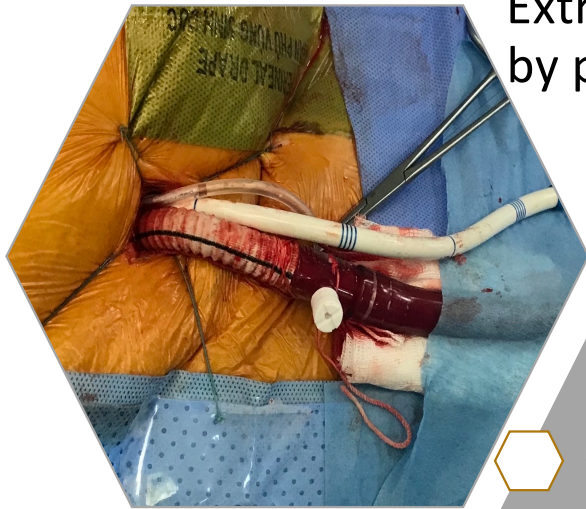


- Conventional or double lumen endotracheal intubation
- Transesophageal echocardiography

- 45-degree right tilted posture
- A standby needle in the right internal jugular vein

SURGICAL PROCEDURE

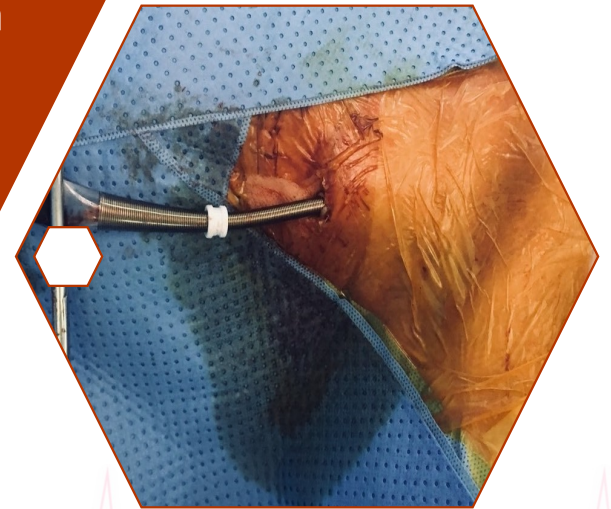
Extracorporeal circulation
by peripheral cannulation



Femoral artery
cannulation using
8 dacron graft

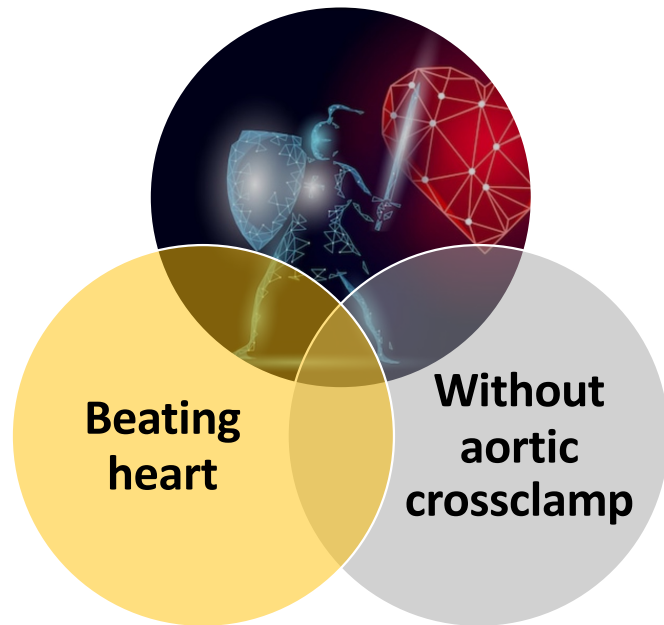
Inferior Vena Cava
Cannulation

Superior vena
cava cannulation

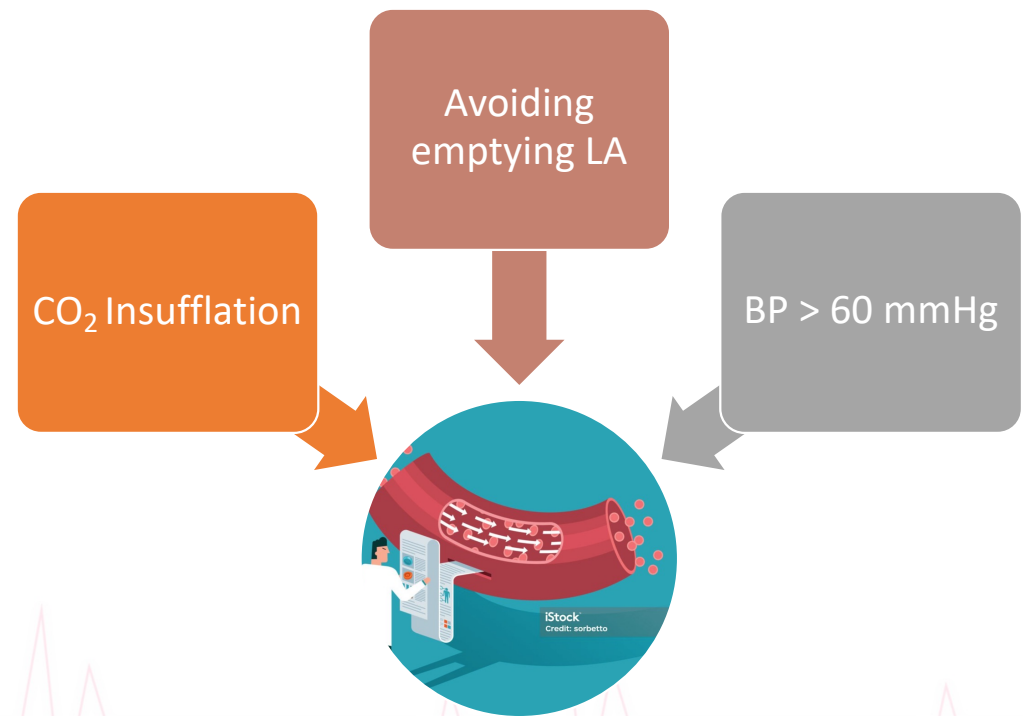


SURGICAL PROCEDURE

CARDIOPROTECTION STRATEGY



PREVENTION OF AIR EMBOLISM



SURGICAL PROCEDURE

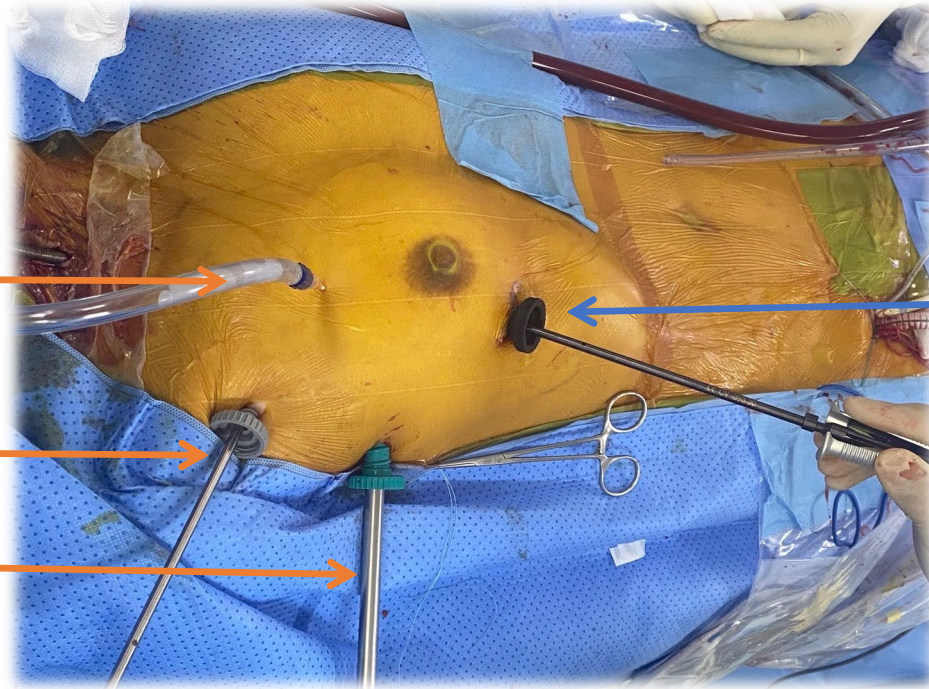
THE PLACEMENT OF TROCARS

CO2
insufflation
needle

Trocart 12

Trocart 5

Trocart 10



SURGICAL PROCEDURE



SURGICAL PROCEDURE

Surgical manipulation

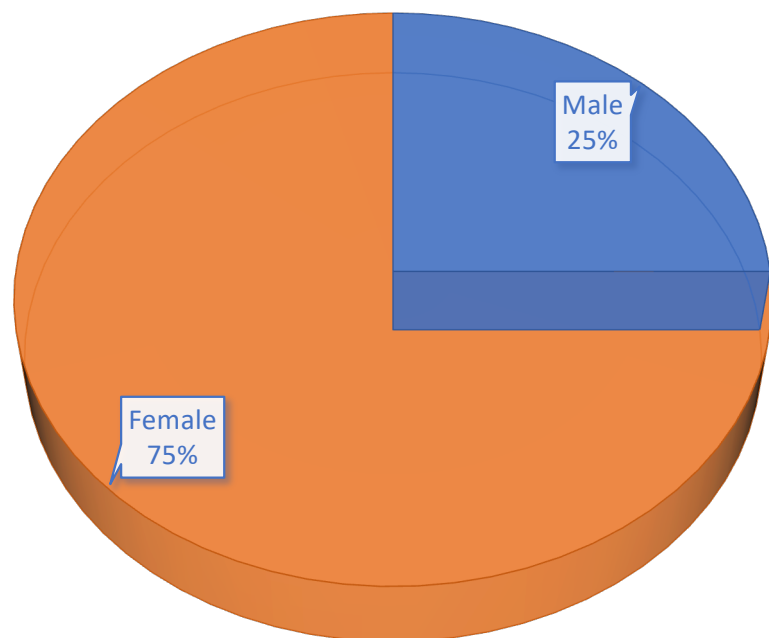


Postoperation



DISCUSSION

MALE/FEMALE



Number of patients n = 08

Variables	Value
Age Mean \pm SD, years	52.3 \pm 9.4
BMI Mean \pm SD, Kg/m ²	21.7 \pm 2.2
Euroscore II	0.92 \pm 0.21



DISCUSSION

Preoperative clinical characteristics

SYMPTOMS		N (%)	
Cardiac symptoms	Dyspnea	5	(62,5%)
	Palpitations	3	(37,5%)
	Heart Failure	01	(12,5%)
Symptoms of embolism	Central neutral system	0	(0,0%)
	Peripheral	0	(0,0%)
	Fatigue	02	(25%)
General symptoms	Fever	00	(0,0%)
	Weight loss	00	(0,0%)
No symptoms		01	(12,5%)



DISCUSSION

Preoperative echocardiography

Đặc điểm		n (%)	
Sites	Atrial septum	06	(75%)
	Others	02	(25%)
Dimension of tumors (mm)		44 ± 22.8	
Severe tricuspid regurgitation		00	(0%)
EF %		68.6 ± 8.7	

Intraoperative characteristics

Intraoperative parameters	$\bar{X} \pm SD$
Operation time(hours)	2.9 ± 0.5
CEC (mins)	98 ± 31.5

Characteristics		n (%)
Surgical Approach	Atrial Septum	0 (0%)
	Left Atrium	0 (0%)
	Right Atrium	8 (100%)
Septal Atrial Closure	Direct	7 (87,5%)
	Patch	1 (12,5%)
Tricuspid valve repair		0 (0%)

Postoperative characteristics

Parameters	$\bar{X} \pm SD$
Ventilation time (hours)	15.6 \pm 10.5
ICU length of stay (days)	1.8 \pm 0.5
Postoperative time (days)	5.3 \pm 2.3

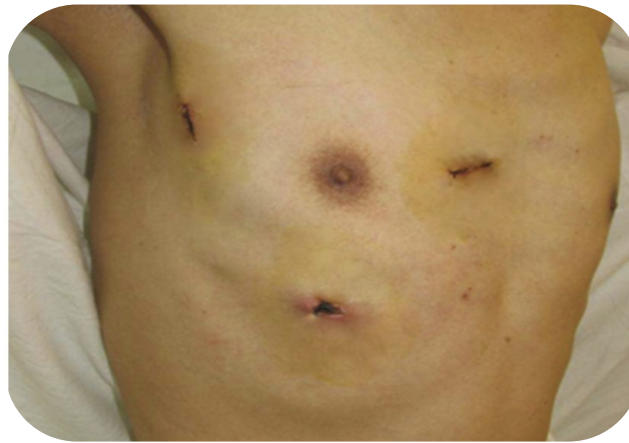
Complications

Complications	Values (n,%)
Technical failure (extension, sternotomy)	0%
Related to Peripheral extracorporeal circulation	0%
Bleeding required reoperation	(1) 12,5%
Stroke	0%
Surgical wound infection	(2) %
Arrhythmia	0%
Mortality	0%

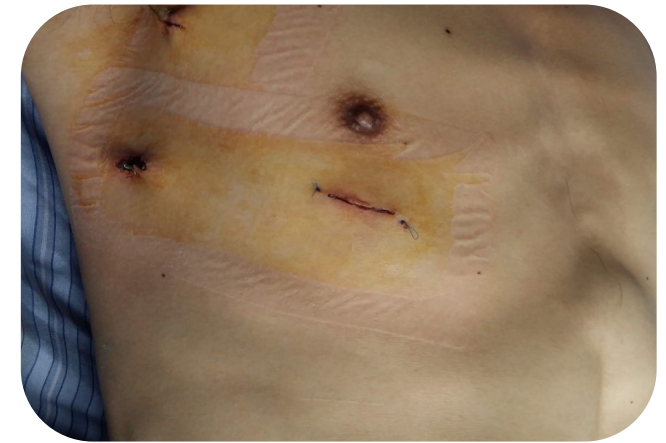
COMPARISON AFTER SURGERY



Robotic - Da vinci



ECS - Yu S



ECS – E Hospital





CONCLUSION

- Resection of right atrial myxoma via port-access cardiac surgery at Hospital E can be performed and feasible.
- Needed to continuous research to evaluate long-term results.



Thanks For Listening!

