



RESULTS OF TOTALLY ENDOSCOPIC CLOSURE VENTTRICULAR SEPTAL DEFECT

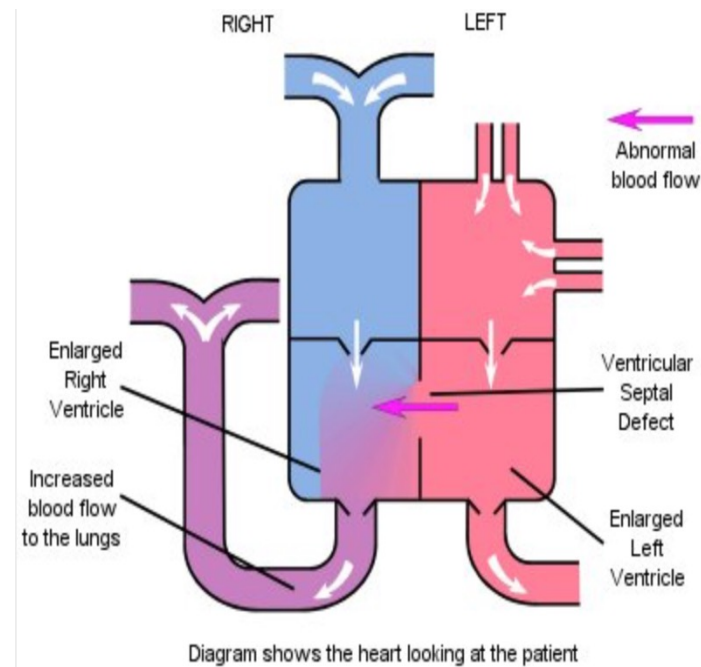
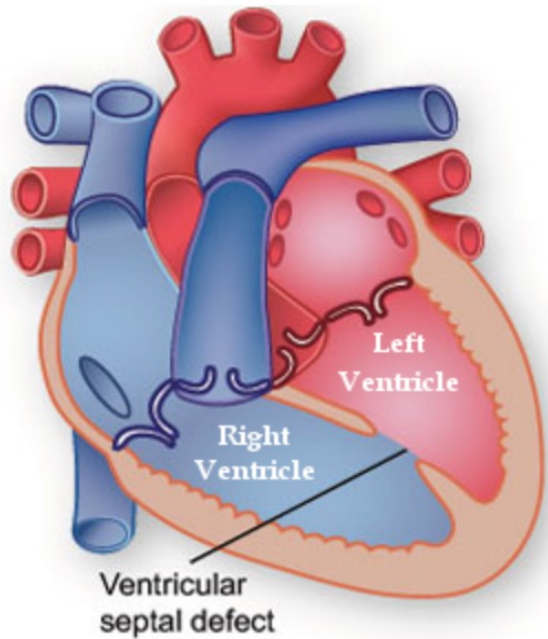
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VENTRICULAR SEPTAL DEFECT

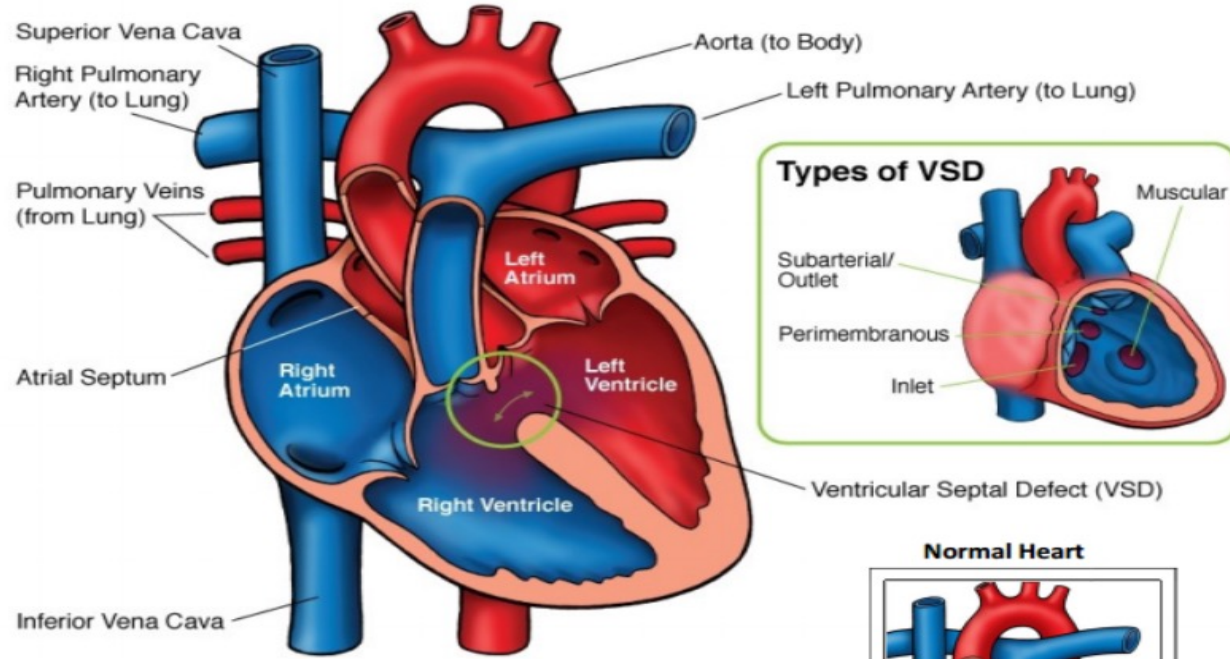
- ❖ 1879: The first describe VSD by Roger
- ❖ CHDs with Left to Right shunt



VENTRICULAR SEPTAL DEFECT

❖ Classifications of VSD

Ventricular Septal Defect (VSD)



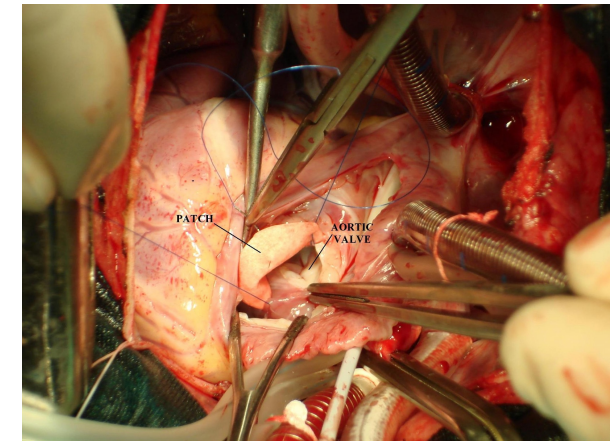
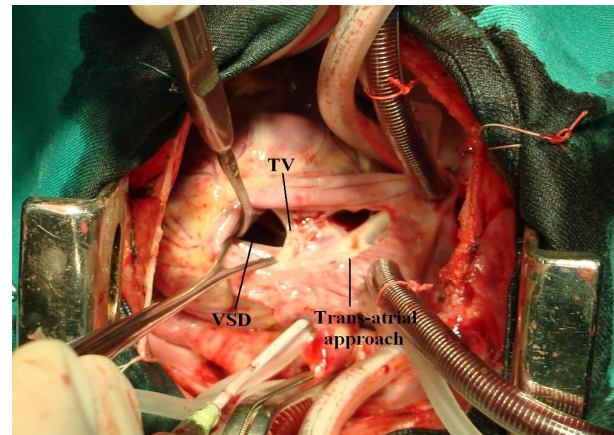
NOTES:



TRADITIONAL OPEN HEART SURGERY

❖ **Insision skin:** *Fully sternotomy*

❖ **Cardiopulmonary by pass:** *Center*

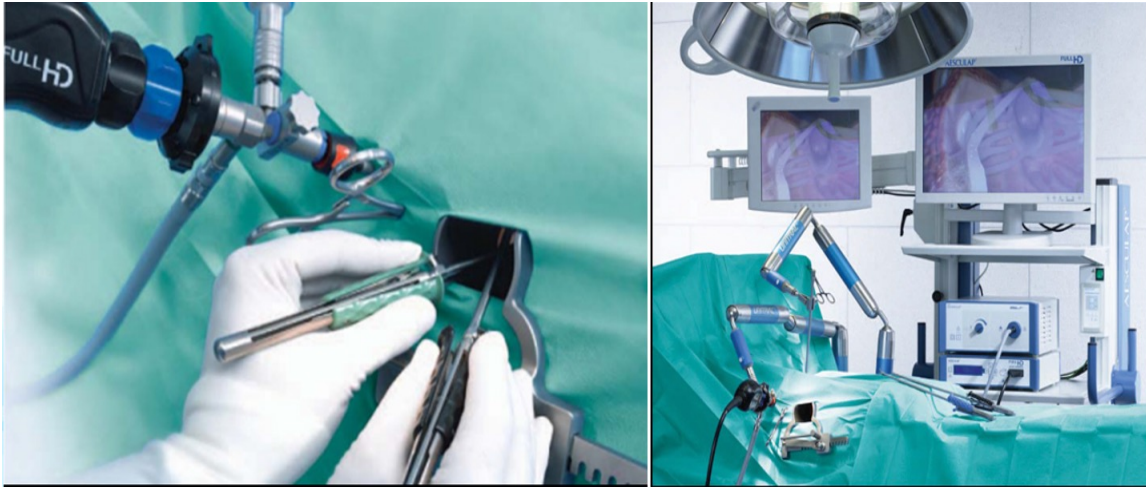


Risks



- Injury
- Infections
- Slow recovery
- Poor quality of life

MICS FOR CHDs



MICS for CHD

- *Partial Sternotomy*
- *Thoracotomy*
- *Endoscopic Assisted Surgery*
- *Totally Endoscopic Surgery*

Minimally invasive cardiac surgery Heart surgery for the 21st century

Elbeery JR, Chitwood WR Jr. *NC Med J*. 1997 Sep-Oct;58(5):374-7.

East Carolina Univ. School of Medicine USA.





COMPARISON



Totally endoscopic congenital heart surgery compared with the traditional heart operation in children

Yunge Cheng · Huaidong Chen · Wener Mohl · Xingzhu Liu · Zhongyi Si

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Conclusions

Totally endoscopic closed chest congenital heart surgery in children was feasible and safe. The results were similar or even superior to the traditional operations due to the decreased use of blood products and shortened hospital time. Degree of satisfaction with cosmetic result and postoperative comfort were very high. Therefore, endoscopic surgery will become a new popular choice for some congenital heart disease patients in the future.



[Wien Klin Wochenschr.](#) 2013; 125(21-22): 704–708.

Published online 2013 Oct 23. doi: [10.1007/s00508-013-0438-8](https://doi.org/10.1007/s00508-013-0438-8)





MICS: E HOSPITAL



- **Level 1: 2010-2013:**

Direct vision: Limited incision (10-12cm)

- **Level 2: 2013-2015:**

Direct vision/Videon assisted: Mini incision (4-6cm)

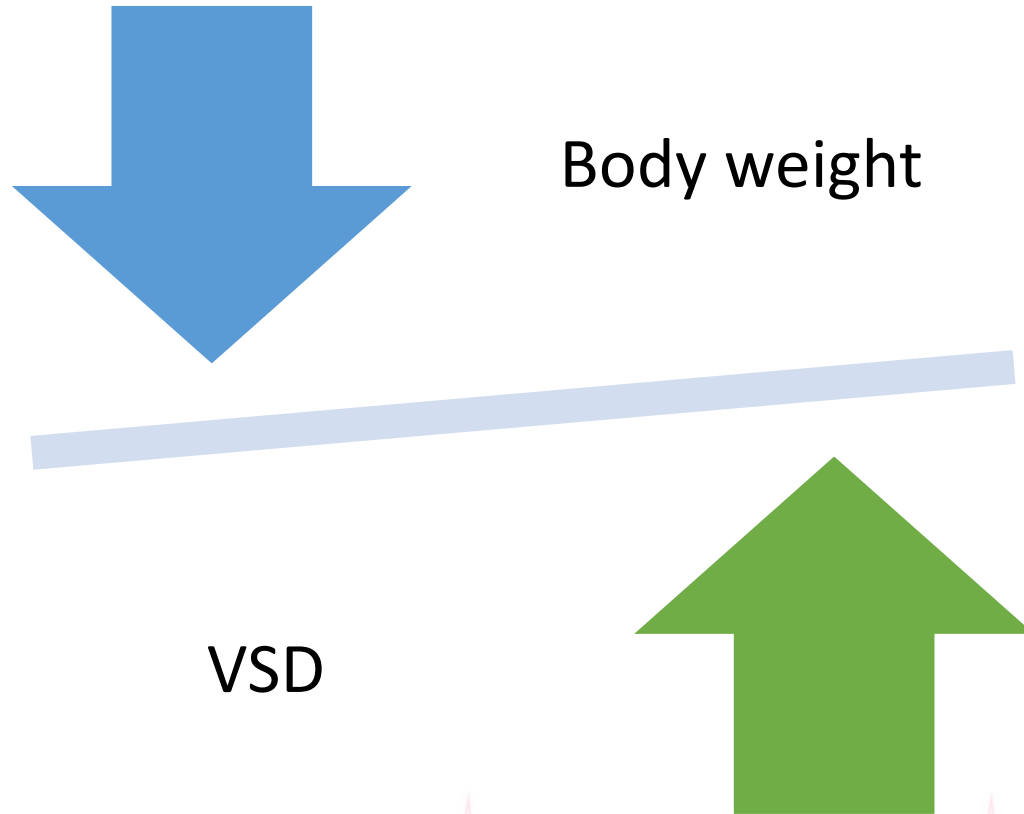
- **Level 3:**

- **2015-5/2017:** Video Directed without Robotic assisted: Micro incision (1.5-4cm)

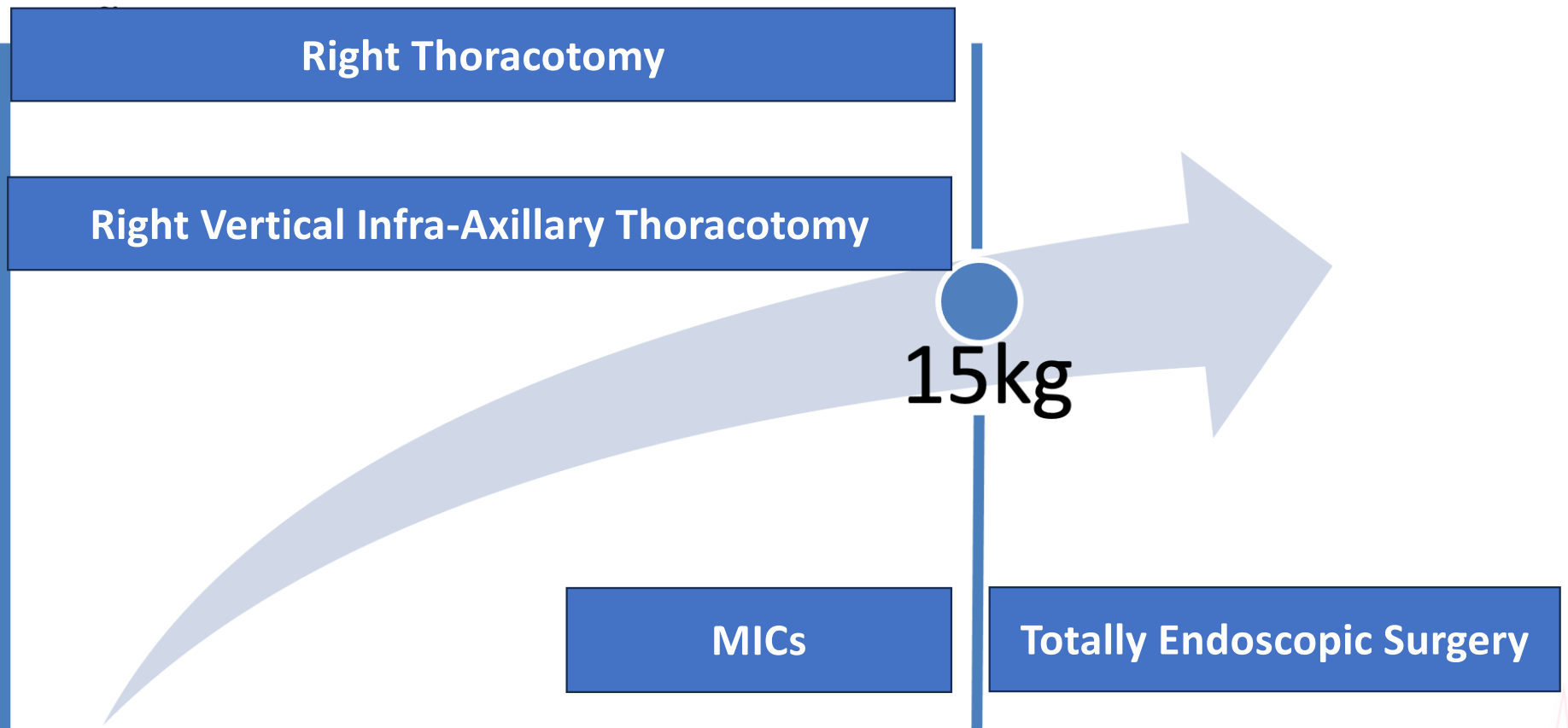
- **5/2017 – now:** Totally endoscopy without Robiotic assisted: Port incision (<1.5cm)



CANDIDATE OF SELECTION

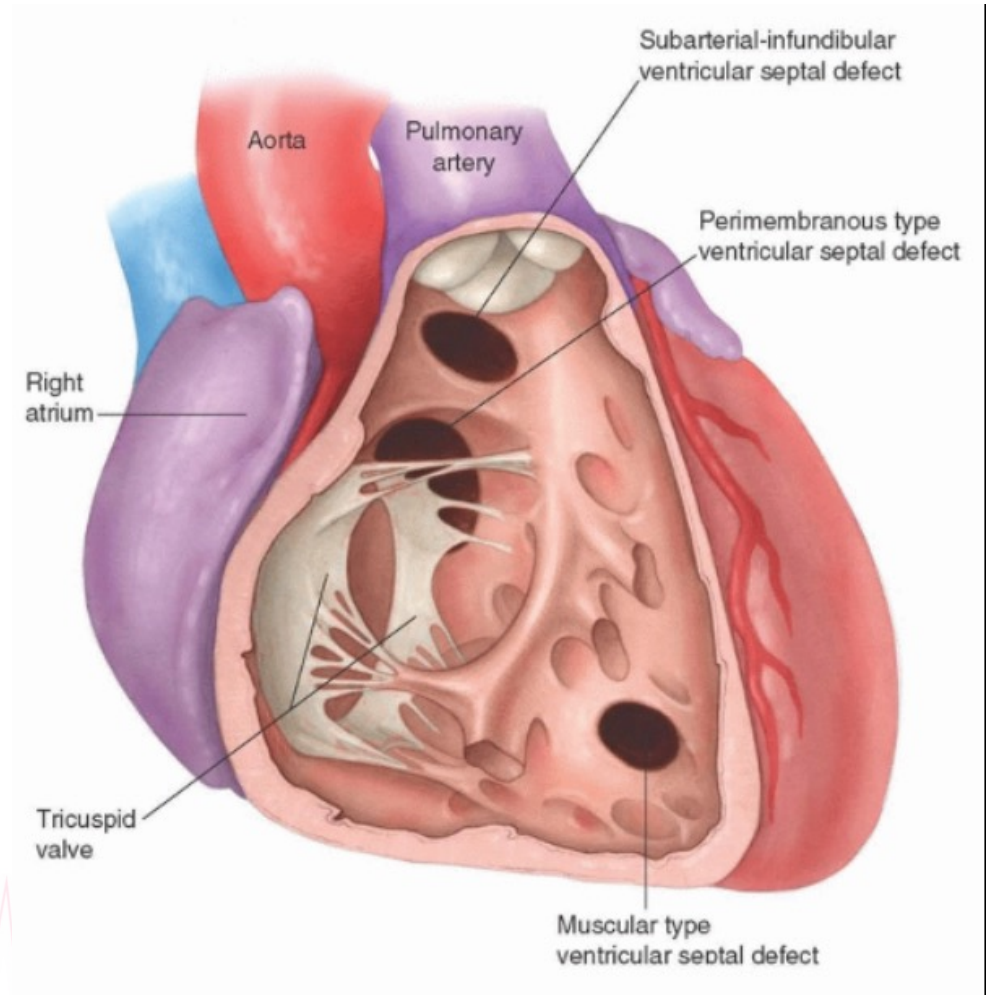


TOTALLY ENDOSCOPIC SURGERY

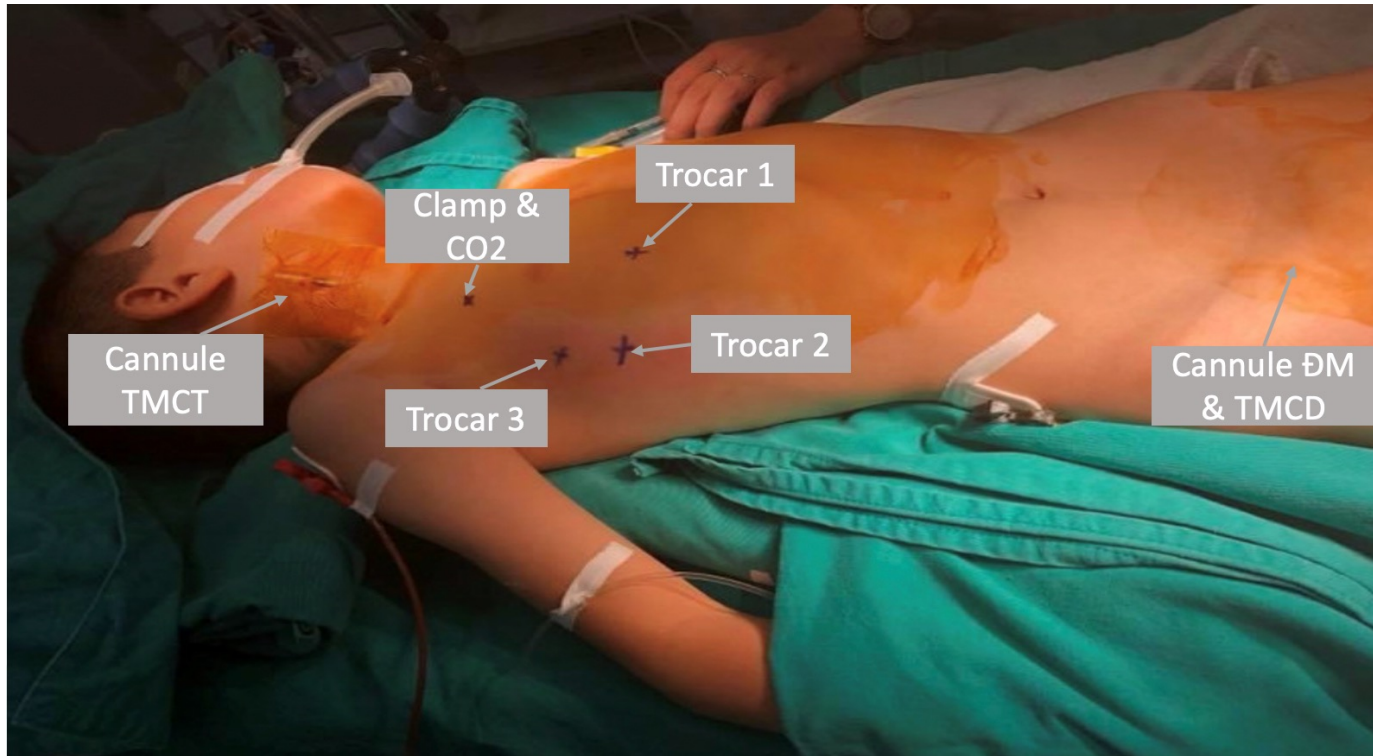


METHODS

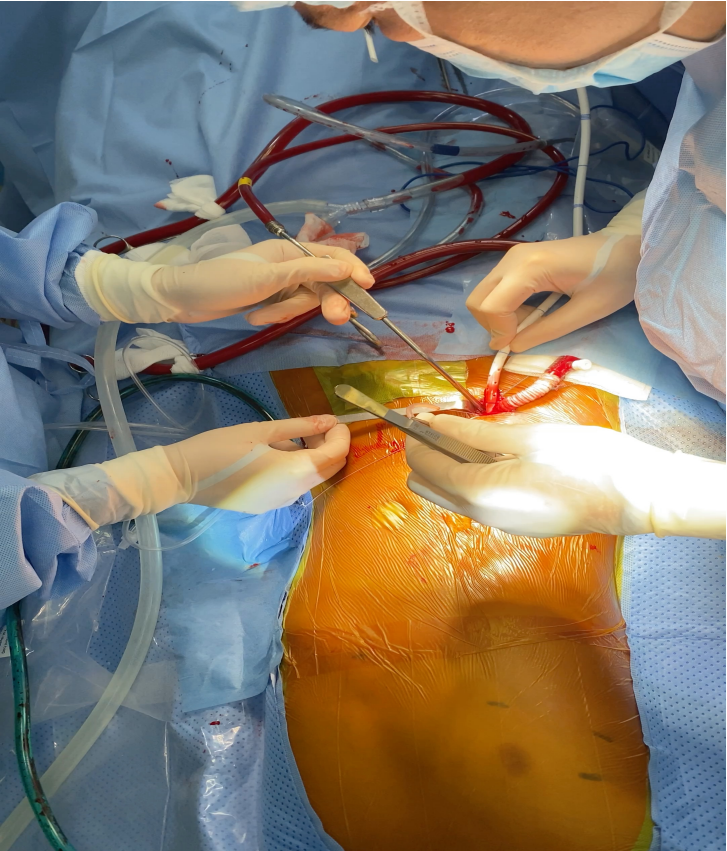
- ❖ **Patients:** *VSD with BW > 15 kg: 36 pts*
- ❖ **Time:** *1/2018 to 7/2023*
- ❖ **Method:** *Describe a series of cases*



PREOPERATIVE



ESTABLISH CBP



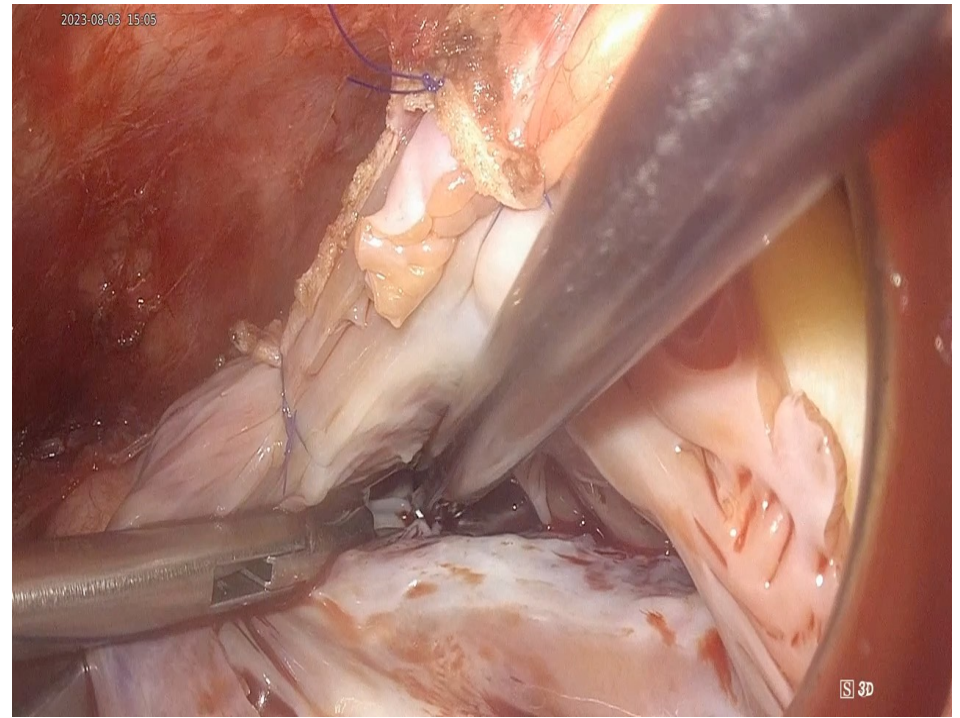
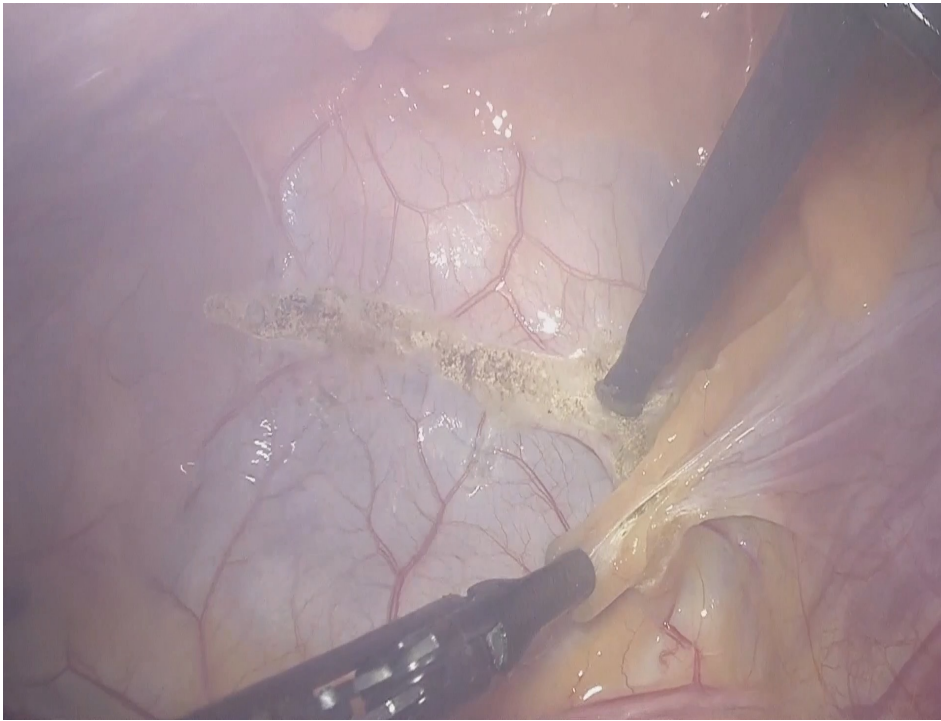
InShot



APPROACH DEFECTS



CLOSURE VSD



RESULTS

N	36
Adult	8
Childrent	28
Age (y)	12,07 (5- 46)
BW (kg)	28,7 (15- 57)
VSD	Perimenbranous (28) Infundibular (8)
RVOTS	9
Mild AVR	03



RESULTS

Index	
Ao Time (m)	61
CBP Time (m)	95
Ventilator time (h)	2
Hospital stay (d)	7
Echo post operative	No Residual VSD Shunt
Technical Failure	0





CONCLUSION

**Totally endoscopic closure ventricular septal defect is safe and feasible
leaving only a small surgical scar with good results and aesthetics**





E
Hospital

THANKS FOR YOUR ATTENTION

