

Catheter Closure of pmVSD in China

Kong Xiangqing MD

The First Affiliated Hospital of Nanjing Medical University

2013.01

Multi-center study in China

- From Jan, 2000 to Jun, 2011
- In 25 hospitals
- 10505 cases enrolled
- Follow-up: 1~5 years

Results

- **average age: 12.2 (3~60yrs)**
- **Successful rate: 97.4% (10232/10505)**
- **Death rate: 0.06% (6/10505)**
- **Trivial residual shunt: 9.8%**
(1030/10505)

Complications (1)

- **Cardiac tamponade: 0.08% (9/10505)**
- **Migration of device: 0.23% (22/10505) (9 cases need surgeon)**
- **Hemolysis: 0.27% (24/10505) (6 cases need surgeon)**

Complications (2)

- **AR: 0.10% (11/10505) (5 cases need surgeon)**
- **TR: 0.64% (68/10505) (6 cases need surgeon)**
- **Narrow of RVOT: 0.17% (18/10505)**
- **Stroke: 0.05% (5/10505)**

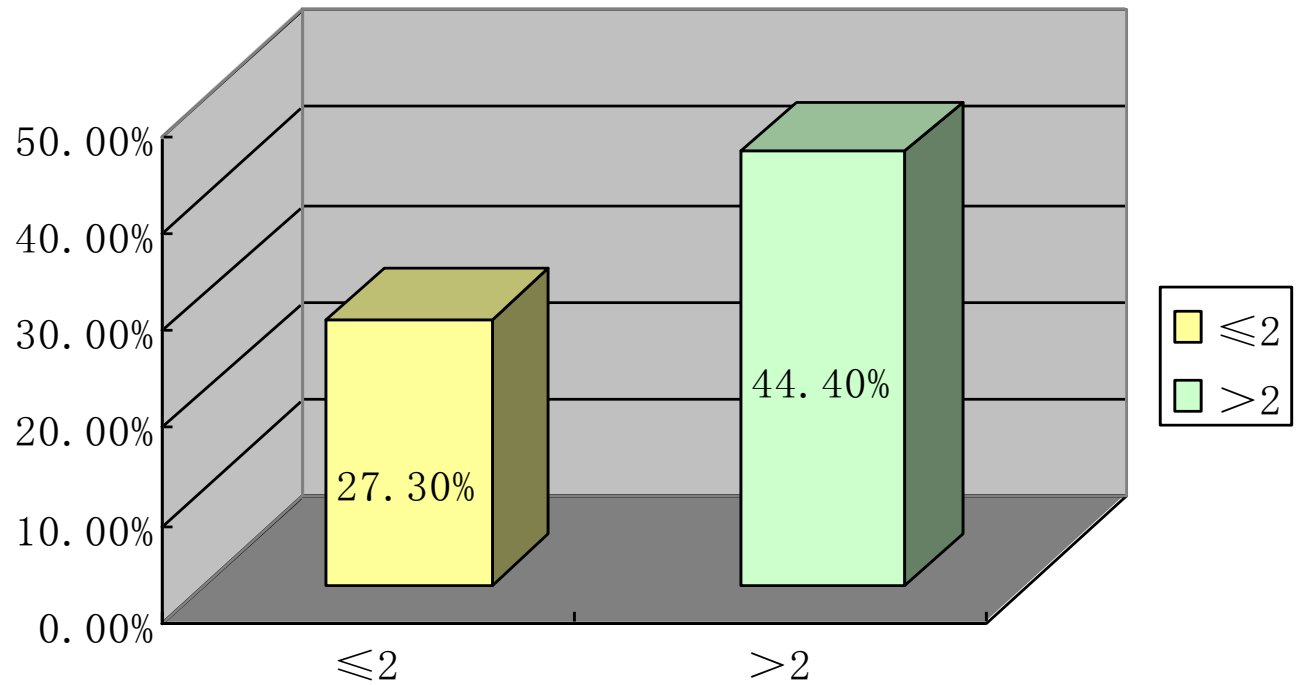
Complications (3)

- **temporary III AV block: 1.1% (112/10505)**
- **Pacemaker: 0.09% (10/10505) (5 yrs)**
- **LBBB + Enlargement of LV: 0.06% (6/10505)**
(2 cases died during the follow-up; 2 cases had CRTD implantation.)

Compare symmetric and asymmetric devices

	Asymmetric	Symmetric
n	688	754
Successful rate	96.8%	96.3%
Residual shunt(3d)	93.6%	95.3%
arrhythmia	14.57%	9.23%
III AVB (temporal)	13	11
AVT	13	13
AJT	16	5
Bundle branch block	62	45
TR	3	1
AR	7	2

Risk factor: ΔD



The relationship between arrhythmias with ΔD

Risk factor: age

- **Age is another risk factor for the occurrence of arrhythmias after the procedure.**
 - **The incidence of arrhythmia is the highest in the patients more than 30 years old, whereas the lowest in the patients from 10 to 30 years old.**
 - **In the patients younger than 10 years old, more conduction blockade and less ventricular tachycardia or accelerated atrioventricular junctional tachycardia are observed.**

Conclusions

- **Transcatheter closure of pmVSD is technically easy.**
- **Short-term follow-up shows we can select asymmetric or symmetric device to close pmVSD without the difference of the complications.**
- **Still, some questions are to be answered.**

Questions

- How to reduce the incidence of arrhythmia related to the catheter closure of pmVSD, particularly III AVB?
- What does the AVT, AJT or BBB means? Long-term follow-up is critical.
- How to explain the enlargement of LV after the catheter closure of pmVSD?



Thank you