# REPORT ON RESEARCH PROJECT

★*No HANDWRITTEN research report submission will be accepted.*
★ *Please fill in ALL the blanks in BLOCK LETTERS. Missing any items may lead to failure of processing your research report.*

## SECTION A : PERSONAL PARTICULARS OF HST TRAINEE

**Name of Trainee:** CHOW CHI YING SIMON ☐ **BST** ☑ **HST** **Specialty:** CARDIOTHORACIC
**Commencing date of Training:** 01/07/2015 **Principal Hospital:** PWH
**Current Training Period :** 01/01/2017 **to** 30/06/2017 **Training Hospital:** PWH

## SECTION B : RESEARCH PROJECT

**Title:** TRANSCATHETER AORTIC VALVE IMPLANTATION : THE TRANSAORTIC APPROACH

**Principal investigator:** CHOW CHI YING SIMON
**Co-investigators:**
CHEUNG GS , LEE AP , WU EB, HO KY, KWOK MW, YU PS, WAN IY, UNDERWOOD MJ, WONG RH

**Duration of project:**
**Current Status:** ☐ **Ongoing** ☑ **Completed**
**Type of Research:** ☐ **Case Report** ☐ **Literature Review** ☑ **Clinical Study** ☐ **Laboratory Study**
☑ **Others (Please Specify)** Case series

***Role of trainee (%):***

| | |
|---|---|
| **Conceptualization & design** | 100 |
| **Conduct of Study** | 100 |
| **Data collection** | 100 |
| **Data analysis** | 100 |
| **Abstract / Manuscript writing up** | 100 |

**Have you ever submitted this research project (Ongoing) with the same title before?** ☐ Yes ☑ No


**Abstract (The content should include Background, Aim of study, Method, Result and Conclusion.)**

**You are NOT required to include the result and conclusion in the abstract if your project is still **ongoing**.*

**A key reference list should be included in your research report. The total number of references should be no more than 5.*

**Background**

Transcatheter aortic valve implantation has been established as a safe and effective treatment option for patients at high or prohibitive surgical risk. However, some patients may not be suitable for the transfemoral approach due to severe iliofemoral disease or aneurysmal disease of the thoracoabdominal aorta.

The aim of this case series was to evaluate the feasibility and clinical outcomes of the transaortic approach.

**Method**

From May 2015 to June 2016, 5 patients (mean age 78.4 ± 3.9 years) with severe symptomatic aortic stenosis underwent transaortic transcatheter aortic valve implantation after a heart team discussion. They were considered to be at high surgical risk and ineligible for the transfemoral approach due to iliofemoral or thoracoabdominal aortic disease.

**Result**

A CoreValve Evolut R was successfully deployed in all 5 patients. We performed 4 right mini-parasternal incisions and one J-incision partial sternotomy. None of the patients required permanent pacemaker implantation, one required reopening of the mini-parasternal incision for postoperative bleeding. Follow-up echocardiography one month after the procedure showed improvement in the mean aortic gradient (from 63.2 to 8.3 mm Hg) and aortic valve area (from 0.62 to 2.2 $cm^2$). None of the patients had more than mild paravalvular leakage. There was no intraoperative or 30-day mortality.

**Conclusion**

Transaortic transcatheter aortic valve implantation is a safe and feasible option for patients with severe aortic stenosis who are considered unsuitable for transfemoral aortic valve implantation.



1. Thourani VH, Suri RM, Gunter RL, . Contemporary real-world outcomes of surgical aortic valve replacement in 141,905 low-risk, intermediate-risk, and high-risk patients. Ann Thorac Surg 2015; 99: 55–61.
2. Leon MB, Smith CR, Mack M, . Transcatheter aortic-valve implantation for aortic stenosis in patients who cannot undergo surgery. N Engl J Med 2010; 363: 1597–1607.
3. Smith CR, Leon MB, Mack MJ, . Transcatheter versus surgical aortic valve replacement in high-risk patients. N Engl J Med 2011; 364: 2187–2198.
4. Leon MB, Smith CR, Mack MJ, . Transcatheter or surgical aortic-valve replacement in intermediate risk patients. N Engl J Med 2016; 374: 1609–1620.
5. Bruschi G, de Marco F, Botta L, . Direct aortic access for transcatheter self-expanding bioprosthetic valves implantation.

## SECTION C : COMMENTS FROM TRAINEE / SUPERVISOR

*(Attach separate document if necessary)*

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**Name of Trainee:** CHOW CHI YING JOHN **Date:** 10th Jan 2018

**Name of Supervisor:** [illegible] **Date:** 10th Jan 2018

***Revised on Jan 2016***