

## Report

Report on participation of the ICMR International Fellow on Training abroad

- 1) Name & Designation : Col Navreet Singh, Cardiologist
- 2) Address : Department of Cardiology  
The Army Hospital (research & Referral)  
New Delhi-110010
- 3) Frontline Area of Research & Training: Transcatheter Aortic Valve Replacement (TAVR)
- 4) Name & Address of Professor & Institute: Dr John Schindler, MD FACC  
Assistant Professor Medicine  
UPMC TAVR Programme  
UPMC Heart & Vascular Institute  
Suites 100B, M060 & 302  
120 Lytton Avenue  
Pittsburgh, PA 15213  
e-mail: [schindlerjt@upmc.edu](mailto:schindlerjt@upmc.edu)
- 5) Duration of Fellowship: 2 months and 25 days
- 6) Highlights of Work Conducted: (Details as per Appendix)
  - a) Technique/Expertise acquired: The patient selection, planning, and procedural techniques of TAVR were learnt. The complications and post procedure management were also understood. Essential notes of the training period have been taken.
  - b) Research results: The training was a comprehensive module to learn the complex procedure and its benefits in patients of Aortic Stenosis.
  - c) Proposed utilization of the experience: The training period was very educative and will assist us in starting this procedure in our country.

## **Appendix**

### **ICMR-IF for Col Navreet Singh for Transcatheter Aortic Valve Replacement at University of Pittsburgh Medical Center (UPMC), Pittsburgh, USA.**

The fellowship for 2 Months and 25 days was done at the UPMC to learn the nuances of this novel and path-breaking procedure to change the aortic heart valve through catheters.

Transcatheter aortic valve implantation (TAVI) is a novel procedure introduced in 2002 to percutaneously replace a stenotic aortic valve. In this procedure a bio-prosthetic heart valve is introduced using a catheter, thereby preventing surgery and its associated morbidity and mortality. This breakthrough technology is especially helpful for elderly patients with severe symptomatic aortic stenosis that is high risk for surgical aortic valve replacement because of age and comorbidities. It is life saving in patients who are inoperable, and has been shown to be successful even in patients with poor left ventricular function. The two available devices (the Cribier-Edwards aortic valve and the CoreValve) have been extensively used in over 20000 patients and are being further improved to decrease the size, and increase flexibility and deliverability.

The objective of this fellowship was to train in the appropriate selection of patients, the procedure of implantation, and the detection and management of its complications. UPMC is a high volume center in the USA with over 200 such procedures every year.

Under the guidance of Dr J Schindler, I was able to undergo comprehensive training in this procedure. Besides the details of the procedure, I was able to understand and plan the infrastructural necessities and requirements of this procedure. It was encouraging to learn that the specialties and skill for the procedure are present in our country. We only need to plan, integrate and motivate a team consisting of a cardiologist, cardiothoracic surgeon, vascular surgeon and a radiologist. The only stumbling block in the implementation of the procedure is the cost of the device (Approximately 15 Lakhs). This however is negotiable and can be discussed with the companies.

With the wide acceptance of TAVI as an established treatment modality and the large target patient population of our country this procedure will be beneficial to many high risk and inoperable patients. This would not only help the patient, but also the large demand would lower the price of the procedure.

In the future, with increased institutional support for research and development by the ICMR, indigenous manufacture of the hardware will become a reality. (eg the 'Myval' being tested by Meril Lifescience, India) This would not only decrease the production costs, but also adequately modify the procedure for the Indian sub-population.

It is my sincere desire to see this procedure being started in our country. However, the administrative and bureaucratic complexities can stall this process. I am sure that with the support of the ICMR and the ministry of health we will be able to give this project 'wings'.