Clinical Journal of Diabetes Care and Control
ISSN: 2642-0872

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Case Report *Volume 6 Issue 2*

A Case Report on Trans Catheter Aortic Valve Implantation (TAVI) on Patient with Severe Calcific Aortic Stenosis

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Received Date: July 24, 2024; **Published Date:** August 01, 2024

Abstract

A TAVI is a medical procedure that involves fitting a valve into the heart to treat aortic stenosis. TAVI stands for Transcatheter Aortic Valve Implantation. An artificial valve is implanted into the heart through this procedure. A patient from Maldives with symptomatic severe calcific aortic stenosis was admitted for TAVI. Transcatheter Aortic Valve Implantation (TAVI) was done on 20.02.20 via the Right Artery approach under using 21.5mm MyVal with good result. There was no residual gradient / paravalvular leak or AV block. The patient tolerated the procedure well and the post procedure period was uneventfull. Post procedure Echo revealed a well seated valve with Aortic valve Gradient coming down from 107/59mmHg to 29/19mmHg with no paravalvular leak. She was mobilised and was discharged in stable condition.

Keywords: TAVI; Aortic Stenosis

Abbreviations

TAVI: Transcatheter Aortic Valve Implantation; AV BLOCK: Atrioventricular Block; SAVR: Surgical Aortic Valve Replacement; CCT: Cardiotoxic Cancer Therapy; PCI: Percutaneous Coronary Intervention; LAD: Left Anterior Descending Artery; RCA: Right Coronary Artery; OM: Osteomyelitis; CAG: Coronary Artery Angiography.

Introduction

Transcatheter aortic valve implant (TAVI) is one of the preferable procedures that have become a mainstream option for inoperable, high-, intermediate-, and even low-surgical-risk patients who are with severe aortic stenosis [1]. Aortic stenosis (AoS) is a common valvular problem in the ageing population in which degenerative valvular changes lead to narrowing of the aortic valve orifice and sequential obstruction of left ventricular (LV) outflow. Clinically manifested as chest pain, syncope with exertion, and congestive heart failure [2]. Transcatheter aortic valve implantation (TAVI) is an increasingly popular treatment alternative to surgical aortic valve replacement (SAVR) for frail elderly individuals with symptomatic severe aortic valve stenosis [3]. Cardiac computed tomography (CCT) is an important tool in the pre-procedural evaluation whereby the aortic valve morphology, annular area, annulus to coronary height, sino-tubular junction diameter, coronary anatomy, left ventricular function, and peripheral vasculature are assessed [4-6]. American Heart Association and the American College of Cardiology published TAVI as a class I recommendation for severe symptomatic aortic stenosis in patients who are at High risk for surgical valve replacement [7]. This case report depicts the successful implantation of a trans catheter aortic valve in a 76-year-old woman with severe calcific aortic stenosis.

Case Report

This 76 year old female patient from Maldives with symptomatic severe calcific aortic stenosis was referred for possible TAVI. She had PCI to LAD/RCA &OM with IVUS guidance on 19/1/2020 at Maldives. She had a CAG prior to deciding on aortic valve replacement (TAVR vs SAVR) here on 12/2/22 which revealed no obstructive coronary artery disease: widely patent stents in RCA & OMI with ~ 40-50 %. In stent restenosis in LAD, she was advised transcatheter aortic valve implantation (TAVI). Her past medical history shows, she is on treatment for hypertension and dyslipidaemia. There is no history of type 2 diabetes mellitus or family h/o premature coronary artery disease.

Trans Catheter Aortic Valve Implantation (TAVI)

Right & left femoral artery approach. The calcified aortic valve was crossed with AR -2 diagnostic catheter with 0.035" straight teflon wire. The wire was then changed to an extra length 0.035" wire and a 6F pigtail catheter was placed in LV apex. A 0.035" * 275 cm SAFARI wire was then placed in LV over the pigtail catheter. 14 Fr python sheath was placed over the right femoral artery. A 21.5 mm my val was developed in the aortic position with rapid ventricular pacing at 140 bpm over a 21.5 * 30 mm navigator. Aortic valve reduced from 80mmHg to 0 mmHg. No paravalvular leak or AV block. Right femoral pucture was closed with proglide uncomplicated procedure.

Discussion

This 76 year old with Severe Calcific Aortic Stenosis was admitted for Trans Catheter Aortic Valve Implantation (TAVI). She had a bordline femoral artery measurement and hence the option of an axillary artery implantation and covered stent to close the artery was also kept ready. As her baseline ECG showed RBBB with a high chance of development of AV block post PCI, it was decided to have a Balloon Expandable Valve rather than a Self -Expanding valve-also for future easy access to coronaries should the need arise.

The femoral artery proved adequate and hence the procedure could be completed via the femoral approach and conscious sedation. Transcatheter Aortic Valve Implantation (TAVI) was done on 20.02.20 via the Right Artery approach under using 21.5mm MyVal with good result. There was no residual gradient / paravalvular leak or AV block. The patient tolerated the procedure well and the post procedure period was uneventfull. Post procedure Echo revealed a well seated valve with Aortic valve Gradient coming down from 107/59mmHg to 29/19mmHg with no paravalvular leak. She was mobilised and was discharged in stable condition.

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