

Transcatheter aortic valve implantation: a case report

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Introduction: Transcatheter aortic valve implantation (TAVI) is a minimally invasive therapeutic procedure used to treat severe aortic stenosis in patients with high surgical risk. It involves the implantation of a bioprosthetic aortic valve via catheter, most commonly through the femoral artery, without the need for open-heart surgery or cardiopulmonary bypass. The decision for this procedure is made by a multidisciplinary team consisting of a cardiologist, cardiac surgeon, and anesthesiologist, based on comprehensive diagnostic evaluations¹. Common symptoms of aortic stenosis include shortness of breath, fatigue, palpitations, dizziness, and syncope. Major risk factors are advanced age and bicuspid aortic valve, alongside other contributing factors such as metabolic syndrome, diabetes, hypertension, smoking, hyperlipidemia, infections, and cardiovascular diseases. Diagnosis is based on echocardiography, ECG, laboratory tests, CT angiography, and coronary angiography².

Case report: This case report presents an elderly female patient admitted to the cardiology department one day prior to the scheduled TAVI procedure. Upon admission, she reported no acute symptoms, was self-sufficient, but experienced exertional fatigue. Pre-procedural preparation included establishing venous access, collecting laboratory tests, performing ECG and cardiac ultrasound, and administering prophylactic antibiotic therapy. The TAVI procedure was performed via the femoral approach without complications. Post-intervention, the patient was transferred to the coronary care unit for continuous monitoring of cardiac rhythm, blood pressure, respiratory status, and femoral puncture site. Laboratory tests were conducted at 2-, 4-, and 8-hours post-procedure. The patient recovered well and was discharged on the third day after the intervention.

Conclusion: Nurses play a critical role in the pre-, intra-, and post-procedural care of TAVI patients. Their responsibilities include monitoring vital signs, managing patient care, preventing complications, and educating patients³. Patient education focuses on medication adherence, regular cardiology follow-ups, recognizing potential complications, and implementing lifestyle changes. By providing individualized care and support, nurses contribute significantly to the recovery process and long-term quality of life of patients undergoing TAVI².

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