**NEW ONSET CONGESTIVE HEART FAILURE FOLLOWING NEW LEFT BUNDLE BRANCH BLOCK AFTER TRANS-CATHETER AORTIC VALVE REPLACEMENT:**

**A CASE REPORT**

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**Background:** New onset of left bundle branch block (LBBB) after transcatheter aortic valve replacement (TAVR) is common and is considered to have an adverse impact on the recovery of left ventricular ejection fraction (LVEF) and reverse remodeling. However, the onset of overt congestive heart failure related to new LBBB after TAVR is not well described.

**Case:** An 84 year old female with moderate to severe aortic stenosis (AS) and a history of breast cancer and radiation therapy developed progressive dyspnea on exertion with increasing NT-pro BNP. Further evaluation included a dobutamine stress echocardiography, which revealed severe AS. She underwent transfemoral AVR (23mm, SAPIEN 3) without major complication except for new LBBB after the procedure. She was discharged on postoperative day 3. Post-TAVR echocardiography at 1 month showed LVEF 60% and the aortic valve prosthetic mean gradient of 20mmHg with trivial aortic regurgitation. At 6 month after TAVR, she was admitted to the hospital due to heart failure with pulmonary edema. Her echocardiography showed LVEF 35%. Because of persistent heart failure symptoms in the context of LBBB (QRS>150ms), despite optimization of medications, the patient underwent implantation of a biventricular pacemaker. The patient has had remarkable improvement in her symptoms after the resynchronization therapy.

**Discussion:** This case demonstrates a significant decline of LVEF with overt congestive heart failure within 1 year after TAVR associated with new LBBB. New LBBB is commonly observed after TAVR, whose impact on prognosis is under debate, and the onset of overt congestive heart failure is rare. Previous radiation therapy may also have contributed to heart failure in this case. Further studies are needed to identify those individuals who are at risk of delayed LV dysfunction after TAVR especially in cases where new LBBB is identified following TAVR procedure.