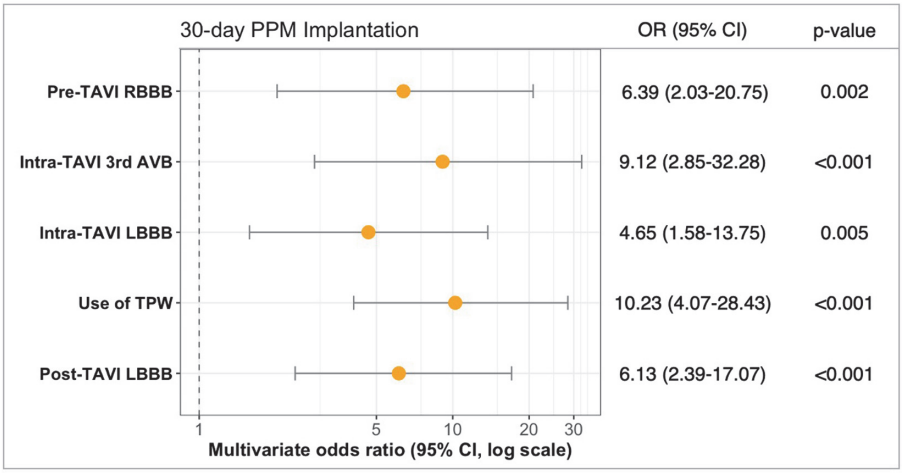
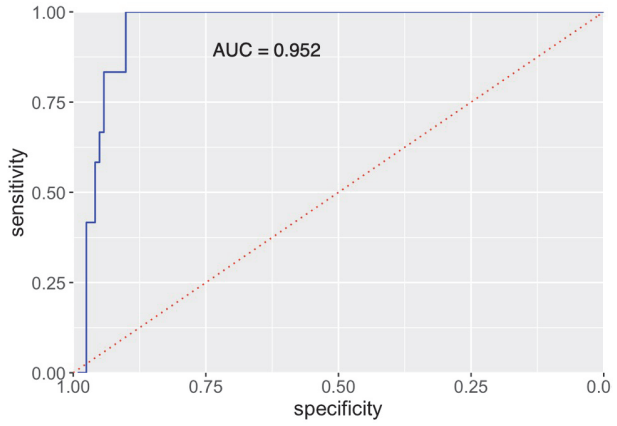


Abstract 38 Figure 1



Abstract 38 Figure 2

TPW pacing and post-TAVI LBBB. We aim to validate this model using an external cohort.

Conflict of Interest None

39 VALVE-IN-VALVE TRANSCATHETER AORTIC VALVE IMPLANTATION IN TRIFECTA AORTIC BIOPROSTHESES – A SINGLE CENTRE EXPERIENCE

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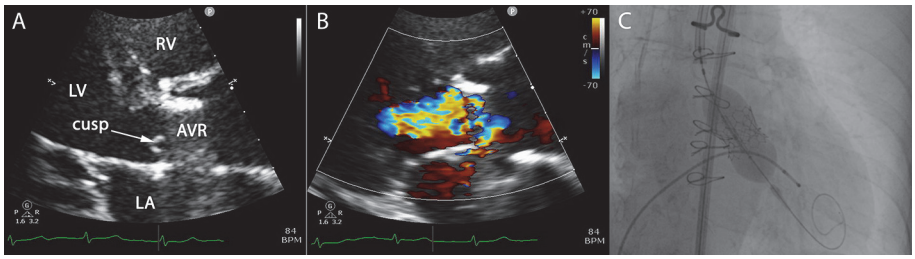
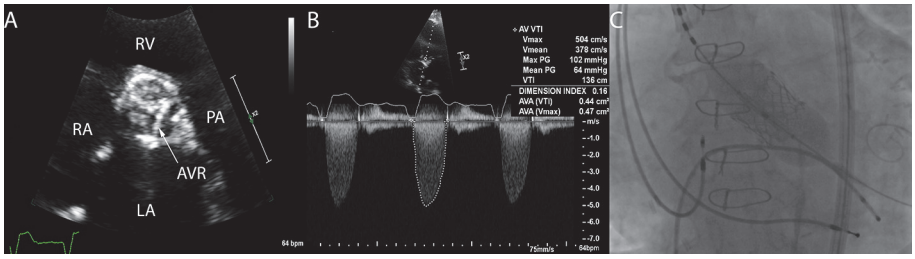
Introduction Valve-in-valve transcatheter aortic valve implantation (V-in-V TAVI) has become an increasingly popular alternative to re-do surgery for patients with failing aortic bioprosthetic valves. The Trifecta aortic valve replacement (AVR), designed for supra-annular insertion, consists of a titanium stent with externally mounted leaflets fashioned from bovine pericardium. Several studies have reported premature structural degeneration of the Trifecta valve. There are currently few data regarding the feasibility & efficacy of V-in-V TAVI within Trifecta bioprostheses.

Methods This represents a retrospective review of prospectively collected data at our centre for TAVI procedures performed between January 1st 2015 and December 31st 2020 inclusive. In cases of V-in-V TAVI to treat a failing Trifecta valve, we collected demographic, procedural, echocardiographic and short-term follow-up data from electronic records systems for both this NHS Trust and primary care.

Results Over a 6-year period, we performed 549 TAVI procedures, of which 51 (9.3%) were V-in-V cases. Of these 51, 15 (29%) were for patients with failing Trifecta valves (9 female, mean age 80.9 ± 5.6yrs;. predominant stenosis in 5 & transvalvular regurgitation in 10). Figures 1 & 2 demonstrate examples of prosthesis stenosis & prosthesis regurgitation treated by V-in-V TAVI. The median time from original AVR to V-in-V TAVI procedure was 59 months (IQR 36.5, range 16–93 months). All procedures were performed via the transfemoral route and 13/15 under conscious sedation. A balloon-expandable TAVI valve was used in 14 patients & a self-expanding valve in 1 patient. Post-procedural echocardiography revealed a mean aortic peak velocity 2.9 ± 0.4m/s & mean aortic gradient 19 ± 5mmHg. Paravalvular aortic regurgitation was absent in 7 cases, trivial in 6 & mild in 2



Abstract 39 Figure 1



Abstract 39 Figure 2

patients. In-hospital and 30-day mortality were 0%. There were three deaths during follow-up (36, 14 & 3 months post procedure), all of which were non-cardiac in nature.

Conclusion V-in-V TAVI is a safe and feasible alternative to re-do surgical AVR for patients with a failing Trifecta aortic bioprosthesis. Unlike other bioprosthetic valves, the Trifecta valve cannot be fractured to enable a larger V-in-V TAVI valve to be implanted. Thus, longer term follow-up of such patients will allow a full understanding of the long-term haemodynamic and clinical outcomes in this patient cohort.

Conflict of Interest Nil

40 FRAIL PATIENTS WITH NON-ST ELEVATION ACUTE CORONARY SYNDROME UNDERGOING PERCUTANEOUS CORONARY INTERVENTION HAVE MORE ADVERSE ANGIOGRAPHIC FEATURES BUT NO DIFFERENCE IN RATE OF COMPLETE REVASCULARISATION COMPARED TO NON-FRAIL PATIENTS

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Introduction Over half of patients that present with non-ST elevation acute coronary syndrome (NSTEACS) are older than 70 years, with these adults having a higher incidence of frailty. There is little data describing the angiographic features of the very oldest, frailest adults. We aimed to investigate angiographic and procedural characteristics in older adults with NSTEACS referred for PCI.

Methods Patients aged ≥75 years presenting with NSTEACS to two tertiary centres (n=271) were recruited. Frailty was assessed using Fried Frailty Index and defined as frail (≥3 criteria met), pre-frail (1-2) and robust (0). Angiograms underwent quantitative and qualitative angiographic analysis, including SYNTAX score and residual SYNTAX score. The primary powered outcome was difference in incidence of complete revascularisation (defined as residual SYNTAX score = 0) between frailty phenotypes. Patients were followed up at one-year for incidence of composite major adverse cardiovascular events (MACE), defined as death, myocardial infarction, stroke or TIA, urgent revascularisation, or major bleeding. A secondary exploratory analysis was association between baseline SYNTAX and residual SYNTAX scores and one-year incidence of MACE. Multivariate logistic regression was performed for associations between frailty and SYNTAX scores. Cox proportional hazards modelling was performed for association between SYNTAX scores and one year MACE.

Abstract 40 Table 1 Baseline SYNTAX score and residual SYNTAX score, stratified by frailty phenotype. SYNTAX score presented as mean ± standard deviation (SD). † Residual SYNTAX score only includes patients that underwent PCI to an identified culprit lesion (n=187, robust n=41, pre-frail n=97, frail n=49)

	Robust (n=53)	Pre-Frail (n=145)	Frail (n=73)	*P value*
SYNTAX score, mean (±SD)	10 (7.0)	13 (10.0)	15 (11.0)	**0.03**
Low tertile (0 – 7), n (%)	20 (37.7)	55 (37.9)	17 (23.3)	0.08
Medium tertile (7.5 – 15.5), n (%)	19 (35.8)	40 (27.6)	20 (27.4)	0.49
High tertile (≥16), n (%)	14 (26.4)	50 (34.5)	36 (49.3)	**0.02**
Residual SYNTAX score, mean (±SD)†	3.76 (5.38)	4.82 (7.61)	4.67 (6.81)	0.71
Complete revascularisation (0), n (%)†	105 (56.1)	24 (58.5)	27 (55.1)	
Acceptable incomplete revasc. (1-7), n (%)†	30 (16.0)	5 (12.2)	8 (16.3)	0.94
Unacceptable incomplete revasc. (≥8), n (%)†	52 (27.8)	12 (29.3)	14 (28.6)	

Results Mean age was 80.5 ± 4.9 years, 60.5% were male. 53 patients (19.6%) were robust, 145 patients (53.5%) pre-frail and 73 patients (26.9%) frail. Baseline SYNTAX scores were split into tertiles: low (a score of 0–7), medium (7.5–15.5), and high (≥16) (table 1). Frail patients had an adjusted 2.67 increased odds (95% confidence interval CI 1.17–6.10, P=0.02) of being in the high tertile. Frail patients were more likely to have severe culprit lesion calcification (adjusted OR 5.13, 95% CI 1.59–16.5, P=0.006). Frailty phenotype did not impact the likelihood of culprit lesion PCI being performed (P=0.58). Frail patients had a lower mean improvement in culprit lesion diameter stenosis post-PCI compared to robust patients (-50.6%, 95% CI -45.7 – -55.6 vs. -58.6%, 95% CI -53.5 – -63.7, P=0.042). There were no differences in rate of procedural complications between frailty phenotypes (P>0.05). There was no relationship between frailty and incidence of complete revascularisation (adjusted OR 0.96, 95% CI 0.36–2.56, P=0.94). There was no exploratory adjusted relationship between one-year MACE and either baseline SYNTAX score (HR 1.10, 95% CI 0.59–2.04, P=0.77) or residual SYNTAX score (HR 1.36, 95% CI 0.68–2.71, P=0.38).

Conclusions Frail adults presenting with NSTEACS have more adverse baseline angiographic characteristics, independent of age. Despite this, frail adults were just as likely to achieve complete revascularisation. In an exploratory analysis, baseline or residual SYNTAX score did not predict MACE at one year.

Conflict of Interest No conflicts