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Abstract 46: CT TAVR Assessment In The United Kingdom: Insights From A National BSCI/BSCCT Survey

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Introduction: Anatomical assessment of the aortic valve and root morphology is a pre-requisite for transcatheter aortic valve replacement. Optimized computed tomography-transcatheter aortic valve replacement (CT-TAVR) images provide isotropic spatial resolution of the aortic annulus to guide selection of the model and size of transcatheter aortic valves. However, protocols for acquisition and reporting differ between institutions.This study aims to evaluate the national variation in CT-TAVR assessment in the United Kingdom including image acquisition, reporting and dissemination of findings to the Heart team.

Methods: UK cardiac CT centres were invited to complete an online survey detailing CT-TAVR assessment at their institution. Information gathered included volume of activity, CT-TAVR acquisition, use of beta-blockade, structured reporting parameters and availability of images to the Heart team.

Results: Forty-seven responses from thirty-six cardiac centres were assessed. Twenty-three centres (63%) had a structural heart programme including TAVR. Most patients (76%) have pre-procedural CT-TAVR performed at a TAVR centre. Beta blockade was used in 22% of centres. There was significant variation in the volume of activity with only 1 in 8 centres (n = 5, 13.9%) performing high-volume activity (> 200 scans per annum). Combined CT-TAVR reporting by a cardiologist and radiologist was more common at high volume centres (100% vs. 50%, $p = 0.025$) and high volume centres were more likely to have an established TAVR MDT process (100% vs. 56%, $p = 0.04$). TAVR centres reported vascular access details more frequently than non-TAVR centres (descending aorta [$p = 0.04$]; minimum iliofemoral diameter [$p = 0.003$], patency [$p = 0.02$] and tortuosity [$p = 0.007$]) and more frequently provided optimal tube angulation of the aortic annulus (67 vs. 6%, $p = 0.012$). TAVR centres also trended towards using lower contrast volume than non-TAVR centres(98 ± 27 vs. 118 ± 42ml, $p = 0.06$)but radiation doses did not differ (766 ± 502 vs. 801 ± 461mGy.cm, $p = 0.66$).

Conclusions: In the United Kingdom, CT-TAVR is performed in both TAVR and non-TAVR cardiac centres. However, there is wide variation in the volumes of activity, approach to acquisition and reporting, radiation dose, and use of a TAVR MDT process.

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