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AN ALL-EMBRACING ANALYSIS COMBINING THE UK TAVI AND CARDIAC SURGICAL REGISTRIES (IN NICOR) TO DESCRIBE THE ACTIVITY, TREND AND OUTCOMES IN 36 026 PATIENTS WHO UNDERWENT AORTIC VALVE INTERVENTION IN THE 5 YEARS FROM 2006 TO 2010

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Purpose Transcatheter aortic valve implantation (TAVI), allows treatment of patients with aortic stenosis for whom there were previously no therapeutic options available (or only at prohibitive risk). This, and evolving population demographics, have resulted in a rapid change in the overall management of all patients with aortic valve disease. The purpose of this study was to describe trends in activity levels, demographics and clinical outcomes of all patients who underwent aortic valve implantation (by surgical or catheter based approaches) during the first few years of TAVI roll out in England and Wales.

Methods All cardiac surgical procedures and all catheter based implants (TAVIs) in the UK are entered into National Registries hosted by NICOR (National Institute for Cardiovascular Outcomes Research). These Registries have the same infrastructure and contain the same demographic data with compatible definitions. All aortic valve interventions over 5 years between 1 January 2006 and 31 December 2010 were included in this analysis, which was restricted to England and Wales where near 100% mortality tracking could be effected for both Registries.

Results 35 406 patients underwent surgical AVR (isolated or with concomitant CABG) (SAVR); 1620 underwent TAVI. The numbers of SAVR peaked in 2008 then declined slightly (for the first time ever in the UK). There was a steady growth in TAVI, so that by 2010 TAVI represented just over 10% of all interventions for aortic stenosis. For patients >80 years old there was almost a 100% increase in all aortic valve interventions (from 1055 up to 2035 in 2010). This increase was about 50% due to an increase in TAVI and 50% SAVR. There was a very marked variation in the rate of

uptake of TAVI by geographical region ranging from 1.4 to 36 pmp (rising to between 4.3 and 47 pmp in 2011). The TAVI cohort had a much greater risk profile even in the patients >80 years old. The 30 day and 1 year mortality was predictably higher in the TAVI cohort but this decreased markedly from 13.9% in 2007 to 6.2% in 2010. The trends in the timing of death post procedure between the conventional and TAVI groups will be presented, as will the 2011 data which will have been validated by January 2013 (a further >1000 TAVI procedures).

Conclusions By capturing all procedures in England and Wales, this study provides a detailed insight into the evolution of aortic intervention during the introduction of TAVI in a defined population.