

059

# IMPACT OF PROCTORING AND NEW TECHNIQUES ON SUCCESS RATES FOR OPERATORS UNDERTAKING PERCUTANEOUS INTERVENTION OF CHRONIC TOTAL OCCLUSIONS

V Sharma, A Natsios, A A Harcombe, W H Smith *Nottingham City Hospital, Trent Cardiac Centre*

doi:10.1136/heartjnl-2013-304019.59

**Background** The incidence of chronic total occlusion (CTO) in coronary arteries can be as high as 35%. These lesions are considered technically challenging. New tools and techniques have been developed to aid in re-opening these lesions and may contribute to increased interventional success rates.

**Aim** To assess methods utilised for Percutaneous Intervention (PCI) of coronary CTOs at our regional tertiary cardiac centre and determine the effect of proctoring on success rates. **Methods:** Our tertiary centre performs 1200 PCIs annually. Nationally recognised experts in CTO PCI attended as proctors on three separate occasions over a period of 4 months. They demonstrated the use of the CrossBoss catheter and the Sting Ray balloon in selected cases to three of the seven local PCI operators. Success rates and techniques of the operators who had been proctored were compared to those who were pre or non-proctored. Sequential patients who underwent PCI for CTO in 2011 and 2012 were included in the analysis. Those who did not meet the criteria for definition of ('true' or 'functional') CTO or whose occlusion was in the infarct related artery in the context of an ST Elevation Myocardial Infarction (STEMI) were excluded. Disparity in the definition of a CTO was corroborated or refuted by a second independent observer. The latter was further confirmed by a third independent observer. Data was collected retrospectively from the British Cardiovascular Intervention Society (BCIS) audit database. The Japanese-CTO (J-CTO) score was applied retrospectively to all patients. Continuous variables were presented as mean ( $\pm$ SD) and categorical variables as percentage. The  $\chi^2$  test or Fisher's exact test was utilised for testing the difference between categorical variables.

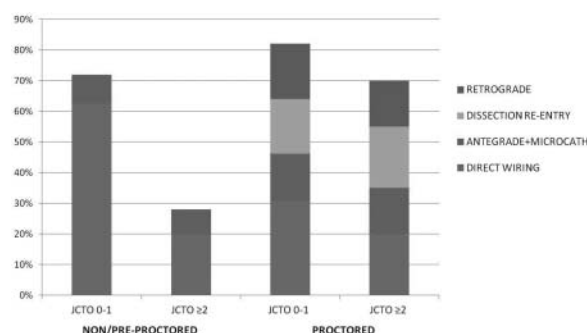


Figure 1

**Results** There were 116 patients in total (n=59 for proctored operators and n=57 for pre/non-proctored operators), mean age was 60.8 years ( $\pm$ 11) for the former group and 64.8 years ( $\pm$ 11) for the latter group with a greater percentage of female patients in the latter (11.8%, n=7/59 vs 19.3%, n=11/57, p=0.31). Operators who were proctored saw a significant increase in their overall success rates in 2012 compared to non/pre-proctored operators (77.9%, n=46/59 vs 54.3%, n=31/57, p=0.010, respectively). Proctored operators were more likely to use antegrade dissection/re-entry, new tools (eg, Tornus, micro-catheters) or the retrograde technique in attempts to re-open CTOs. This was significantly associated with greater success rates in all patients, irrespective of J-CTO score (65.2%, n=30/46 vs 18.75%, 6/31, p<0.0001). Specifically, proctored operators had increased success rates in patients with J-CTO scores  $\geq$ 2 (70%, n=14/20 vs 28%, n=7/25, p=0.007, respectively, graph 1). Graph 1-Percentage success by technique in non/pre-proctored and proctored operators.

**Conclusion** In this observational study, proctoring was associated with a significant increase in subsequent technical success. This is mostly accounted for by results in the complex cases with J-CTO scores  $\geq$ 2 where success rates increased from 28% to 70%.