Conflict of Interest No

68 A COMPARATIVE STUDY OF THE ECONOMICS AND SAFETY OF INTRAVASCULAR LITHOTRIPSY VERSUS ROTATIONAL ATHERECTOMY FOR CALCIUM MODULATION IN PERCUTANEOUS CORONARY INTERVENTION: A UK TERTIARY CENTRE EXPERIENCE

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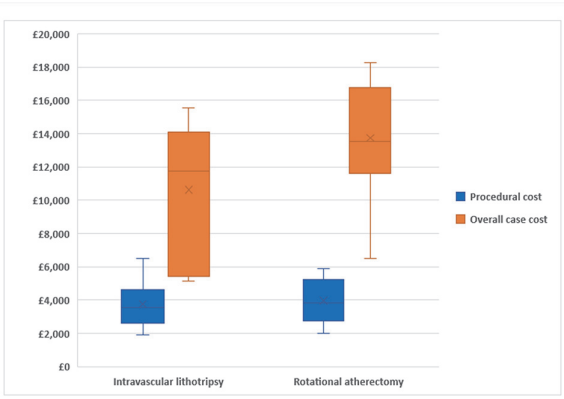
Introduction Intravascular lithotripsy (IVL) [Shockwave Medical Inc] is a relatively novel method of treating complex, calcified coronary lesions and is becoming a fundamental staple of the coronary calcium modulation algorithm. When compared to rotational atherectomy (RA) [Boston Scientific], it has lower procedural complication rates.Objective: To compare the real-world costs and utilisation of resources, procedural and 30 days complications, radiation exposure and contrast volume use between IVL and RA at the Trent Cardiac Centre (TCC), Nottingham University Hospitals NHS Trusts - a tertiary UK cardiac centre.

Method Consecutive patients undergoing percutaneous coronary intervention (PCI) where IVL was utilised (n=12) were compared to consecutive patients where RA was utilised (n=12) in 2021/22 at TCC. Patients' data were electronically retrieved from the hospital's cardiovascular electronic system TOMCAT [Philips]. Patients' demographics and risk factors, periprocedural events, procedural time, contrast volume and radiation doses were analysed and compared in both groups. Incidence of major adverse cardiovascular events (MACE) and hospital re-admissions over the following 30 days were recorded. Cost data was calculated using the NHS Patient Level Information and Costing System (PLICS). Continuous data are expressed as a mean ± 2 standard deviations and p-values calculated using one-tailed Student's t-test.

Results The mean age was 74.8 ± 8.8 years in the IVL groups vs. 77.2 ± 9 years in the RA group, p=0.26. Numerically, the proportion of females was higher in IVL group as well as the presence of vascular risk factors such as hypertension, hyperlipidaemia, and smoking history. In the RA group, two procedural complications were reported (side branch occlusion and coronary dissection) whereas only one complication (femoral site access haematoma) was recorded in IVL group (p<0.07). No MACE events at 30 days were recorded in either group. There were no significant differences in procedural time (mean difference 15 mins, IVL = 128 ± 29 mins vs. RA = 113 ± 27 mins, p=0.22), contrast volume use (mean difference 34 ml, IVL = 210 ± 48 ml vs. RA = 176 ± 47 ml, p=0.16) or Dose Area Product (DAP) radiation exposure (mean difference 956 Gycm2, IVL = 4803 ± 1,604Gycm2 vs. RA =5,759 ± 3,326Gycm2, p=0.29). The cost of the IVL balloon was identical in cost to the Rota-Link™ plus in our institution, at around £1440. There was no statistical difference in the procedural costs between the two groups (procedural costs mean difference £368, IVL = £3759 ± 867 vs. RA = £4128 ± 901, p<0.26), but the overall costs, which included inpatient and outpatient costs, pathology, radiology and staff costs projected out to 1 year, were significantly lower with PCI with IVL vs. PCI with RA (overall costs mean difference £3,120, IVL = £10,626 ± 2,876 vs. RA = £13,746 ± 2,536, p<0.04) (Figure1).



Abstract 68 Figure 1 The difference in both procedural and overall case costs between intravascular lithotripsy and rational atherectomy. There is no significant difference in procedural cost (blue), but the overall cost for case is lower in PCI with IVL than PCI with RA (orange). Data are expressed as a mean (x) ± 2 standard deviations on each side of the figure

Conclusion There were no significant differences in levels of radiation exposure, contrast volume used or length of the procedure comparing IVL with RA. There was significant overall cost reduction with the use of IVL in complex PCI procedures with cost effectiveness being predicted over the following year. Future randomised trials of new PCI technologies should include a formal health economic analysis.

Conflict of Interest None

69 REFERRAL TO ANGIOGRAPHY FOR NON-ST-ELEVATION ACUTE CORONARY SYNDROME PATIENTS: ARE WE FOLLOWING THE LOCAL GUIDELINES?

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Background National Institute of Clinical Excellence (NICE) guidance suggests that patients with non-ST elevation myocardial infarction (NSTEMI) should undergo invasive angiography within 72 hrs of admission. Delivery of timely angiography is challenging; the aim of this study was to assess compliance and identify gaps at a regional level.

Methods We performed a retrospective analysis of all patients transferred to Liverpool Heart and Chest Hospital (LHCH) for invasive management of NSTEMI between March 2019 to February 2020. We identified multiple time points along the ACS patient pathway including: time taken from local hospital admission to referral to LHCH; time taken for referral acceptance; and time taken from LHCH acceptance to admission to LHCH.

Results 1723 patients (mean age 66±12 years; 37.2% female) with NSTEMI were included in the analysis-Table 1. From first hospital admission to transfer to tertiary centre catheter laboratory for angiography, the target of 72 hrs was achieved in only 21% of patients. Median time from admission to district general to admission to tertiary centre was 110.00 hr (4 days and 14 hrs). 40% of patients were referred within 24