CORRESPONDENCE

Access site selection for primary PCI: the evidence for transradial access is strong

To the Editor: We were interested to read the editorial written by Meier et al relating to our recent meta-analysis of randomised trials evaluating access site selection in ST-elevation myocardial infarction (STEMI) percutaneous coronary intervention (PCI). We agree with their comment that our meta-analysis adds to the body of evidence in support of radial access, and that our analysis has to be considered in the light of a number of interrelated issues. We do not however agree with the interpretation of several points discussed in the editorial.

Meier et al state that radial access is used in only 35% of PCI cases in the UK. In fact, the data on access site utilisation in 2010 from the British Cardiovascular Intervention Society (BCIS) database indicates that the majority (51%) of all UK PCI is now performed via radial access. This has increased rapidly over the last 6 years, from just 10% in 2004. This rapid evolution in practice reflects a growing consensus among UK operators that radial access has important advantages compared to femoral access.

Meier et al comment that the inclusion of a large number of patients from RIVAL is a weakness in our meta-analysis. Although this is a valid point, we addressed this issue in the discussion section of our paper, noting that when the RIVAL patients were excluded there was still a substantial mortality reduction of 11% in the radial access group. Since the publication of our meta-analysis, a further large randomised trial has reported outcome data relevant to this issue. In RIFLE, 1001 STEMI patients were randomised to radial or femoral access, with the radial group benefiting from a highly significant 46% reduction in cardiac mortality. When the RIFLE data is added to the studies already included in our paper, the updated meta-analysis continues to show a highly significant reduction in mortality (OR 0.55 (0.38 to 0.75), p<0.001) in a dataset comprising of 5978 STEMI patients, with fewer than half of the patients derived from RIVAL. Meier et al comment that the inclusion of non-primary PCI (PPCI) STEMI patients may have influenced outcomes in our meta-analysis. We addressed this important issue in the results section of our paper in which we performed meta-regression analysis and demonstrated no statistically significant association between the proportion of patients who were primary PCI cases in each study and OR for mortality. The case supporting preferential use of radial access for mortality reduction in STEMI PCI is strong.

Meier et al state that cardiogenic shock or pacing requirements preclude the use of radial access in many STEMI patients. This is not an important issue in clinical practice for experienced radial operators, as confirmed by the OLVG group, who reported in Heart that 96.1% of 2209 PPCI cases in their institution were completed via radial access. Meier et al comment that variations in clinical practice may influence radial access, stating that Bivalirudin is used commonly in the UK and that this may reduce the benefit of a radial access. In fact, the 2010 BCIS audit records Bivalirudin use in only 7.4% of all UK PCI cases. Even when Bivalirudin is used, recent data from HORIZONS-AMI indicates that radial access is still associated with a reduction in bleeding and adverse events when compared to femoral PCI performed with the use of Bivalirudin. We agree with Meier et al that the use of glycoprotein Ib/IIa inhibitors increases the risk of femoral access bleeding, an important factor when the BCIS database records the use of these potent antithrombotics in 61.7% of UK PPCI in 2010, providing a strong driver to increase radial access rates. We were surprised that Meier et al cited a randomised trial of 109 patients to support the use of closure devices in femoral access cases. In a meta-analysis of 7528 patients enrolled in randomised trials published in 2010, vascular closure devices did not reduce complication rates compared to manual compression.

Meier et al comment that radial access increases radiation exposure and is associated with an increased procedural failure rate. This is true for inexperienced radial operators, and also for inexperienced femoral operators. Published data for transradial PCI performed by experienced radial operators do not show this pattern. In relation to cerebrovascular event rates, data from very small studies of particulate embolisation needs to be considered in the light of data from large randomised trials that show no increase in clinical cerebrovascular event rates when radial access is utilised.

It is interesting to consider the response of cardiologists to published meta-analysis. In 2005 Keeley et al published a meta-analysis of 28 small randomised trials suggesting that changing from lysis to PPCI would reduce STEMI mortality by around 30%. Cardiologists took up this change in practice with great enthusiasm. When presented with a meta-analysis that suggests a similar beneficial effect from a change in access site practice, some operators continue to resist change. It is important to evolve practice in line with data, and the current evidence suggests that STEMI PCI should be done by competent radial operators.

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Competing interests None.

Provenance and peer review Not commissioned; internally peer reviewed.

Published Online First 3 July 2012

Heart 2012;98:1392. doi:10.1136/heartjnl-2012-301935

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The Authors’ reply: We thank Ratib et al for their interest in our editorial1 which discussed their paper2. Radial access has been in use for decades, but has only recently gained wider acceptance in some countries. As with every change in medicine, we must ensure that it is driven by sound evidence rather than an ‘en vogue’ trend. The authors are to be congratulated for adding to the body of evidence supporting the radial approach in patients undergoing primary percutaneous coronary intervention (PCI) for ST segment elevation myocardial infarction (STEMI). In general, we agree with the author’s conclusions. The aim of our editorial was to underline the importance of their paper, and...