Emerging transcatheter therapies for aortic and mitral disease

A Messori and S Trippoli

Heart 2009;95;1707
doi:10.1136/hrt.2009.165456

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Emerging transcatheter therapies for aortic and mitral disease

To the editor: One issue that has not been discussed in the paper by Christofferson et al is the cost-effectiveness of transcatheter therapies, particularly those based on the new transcatheter aortic valves.

Previous cost-effectiveness studies on surgical aortic valve replacement (AVR) compared AVR with best medical therapy (or no operation) and found that AVR had an acceptable cost-effectiveness profile (cost per quality-adjusted life year gained = approximately $15 500) calculated from an incremental lifetime cost of around $110 000 per patient and an incremental lifetime benefit of 8.2 quality-adjusted life years gained per patient in a series of 4617 subjects. Likewise, the cost-effectiveness of the new transcatheter aortic valves needs to be assessed using best medical therapy as the main comparator.

As pointed out by Christofferson et al, the data on the outcome expected using transcatheter aortic valves are still preliminary. Hence, inasmuch as this clinical information concerning one of the two comparators is still inconclusive, a cost-effectiveness study cannot be currently undertaken to compare transcatheter aortic valves versus best medical therapy.

However, some important points of controversy for future cost-effectiveness analyses are already sufficiently clear—for example: (a) the choice of appropriately matched effectiveness data for the control group given best medical therapy; and (b) the selection of similar age ranges for the two groups under comparison.

In the analysis by Wu et al, both groups being compared (AVR versus no operation) were recruited over a time interval covering several decades: the 4617 subjects of the AVR group were in fact enrolled between 1961 and 2003 while the control group given best medical therapy (mean quality-adjusted survival = 1.2 years per patient) refers to information published between 1982 and 2003. Since these controls date back nearly 30 years, future cost-effectiveness studies on transcatheter aortic valves should exercise much caution when being compared (AVR versus no operation) and medical therapy (assessed 50 years ago) could prove to be an artefact that falsely improves the cost-effectiveness of the new valves.

More importantly, current trends in the selection of candidates for transcatheter aortic valves tend to include very elderly people (subjects aged more than 80) whose life expectancy is shorter than that of historical populations with aortic valve disease such as the one reported by Wu et al. This factor (that appropriately reduces the magnitude of the incremental survival benefit resulting from the new valves) should be carefully incorporated in future cost-effectiveness analysis to avoid other artefacts favouring the new valves.

In summary, despite these risks of an imperfect match in baseline age or era of treatment or both, cost-effectiveness studies in this area are urgently needed to carefully determine whether or not these high-cost innovative devices (unit price €20 000 or $30 000) are value for money according to current cost-effectiveness standards.

A Messori, S Trippoli
Careggi Hospital, Laboratorio di Farmacoeconomia, Florence, Italy
Correspondence to: Dr Andrea Messori, Careggi Hospital, Laboratorio di Farmacoeconomia, Florence, Italy; andreamessori@interfree.it
Competing interests: None.
Provenance and peer review: Not commissioned; not externally peer reviewed.
Heart 2009;95:1707. doi:10.1136/hrt.2009.165456

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ACS scores: risky business?

To the editor: If a study identifies several predictors of high risk for adverse events—as GRACE has attempted to do for acute coronary syndrome (ACS)—could our patient inclusion criteria perhaps indicate low risk—that is, freedom from those events? Have we somehow missed the point of this paper by Brieger et al? Or are there more analyses just waiting to be presented from a different angle to further advance our ability to manage this multifaceted condition called ACS?

R Lim, G Starmer
University of Queensland, Brisbane, Australia
Correspondence to: Dr R Lim, University of Queensland, Department of Cardiology, Princess Alexandra Hospital, Ipswich Rd, Brisbane QLD 4102, Australia; r.lim@uq.edu.au
Competing interests: None.
Provenance and peer review: Not commissioned; not externally peer reviewed.
Heart 2009;95:1707. doi:10.1136/hrt.2009.179267

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The authors’ reply: We thank Dr Lim and Dr Starmer for their letters commenting on our article.2 The GRACE risk score was developed to identify the high-risk population and does so very well.3 However, what is clear when approaching this ‘multifaceted condition called acute coronary syndrome (ACS)’, is that not being at high risk is not the same as being at low risk.4 Our Freedom from Event score makes use of (the absence of) some of the same factors included in the GRACE risk score and combines them with additional clinical features that enables better risk stratification within the non-high-risk population. These patients do make up the majority of ACS presentations and our tool allows the identification of those who can be treated in less resource-intensive environments, or triaged to earlier discharge. In our view, approaches to more efficiently manage these patients are justified, whatever the angle….

D Brieger,1 G Fitzgerald,2 G Steg,3 K Fox4
1 Department of Cardiology, Sydney, Australia; 2 Center for Outcomes Research, University of Massachusetts Medical School, Worcester, USA; 3 Département de Cardiologie, Université Paris, Paris, France; 4 Cardiovascular Research, University of Edinburgh, Edinburgh, UK
Correspondence to: Dr D Brieger, Department of Cardiology, Concord Hospital Hospital Rd, Concord Sydney, 2139 Australia; davidb@email.cs.nsw.gov.au
Provenance and peer review: Commissioned; not externally peer reviewed.
Heart 2009;95:1707. doi:10.1136/hrt.2009.179382

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