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Editorials

Coronary revascularization, when it needs to be done it needs to be done

See page 654 for the article to which this Editorial refers

Rapid advances in the fields of diagnostic and therapeutic cardiology have led to an increase in health care costs. This has resulted in cost curtailing measures imposed by health care managers, based on assumptions that utilization of these methods do not provide commensurate increases in health benefits (over-use). To control the presumably spiralling costs of health care, practice guidelines are rapidly being formulated and implemented, against which the decision process of the physicians is assessed. These methods, developed to check over-use[1,2], have rarely been used to report under-use[3].

In this issue Filardo *et al.*[4], using a prospective observational cohort, report on patients undergoing revascularization. The patients had lower mortality rates (4·8% vs 10·6%, $P=0·001$) than those not undergoing surgery or PTCA for what was an appropriate indication for revascularization, based on the use of the RAND Corporation Appropriateness Method[1,2,5,6]. The results were unchanged after adjusting for risk factors (adjusted OR = 0·48, 95% CIs 0·30–0·77).

Coronary revascularization, either by CABG or PTCA, has been proven unequivocally to improve survival in selected patients, especially in those with triple vessel disease and depressed left ventricular function (CABG), and also to improve symptoms as compared to medical treatment[7–10]. These results are further strengthened by the report of Filardo *et al.*[4] who also described improved survival in patients who received revascularization. The authors concentrated on mortality data only. However, it would have been useful to know what was the clinical status of the surviving patients with or without revascularization. This information could have been obtained by telephone as reported in a similar study by Kravitz *et al.*[3]. Further information could have been provided by relatives of patients. This would have provided insight into the cause of deaths, as it is unclear whether patients with increased mortality without revascularization had contraindications to an intervention, for example, presence of a malignant disorder or a short life expectancy.

What inferences do we draw from this paper?
(1) Should the 'appropriateness' criterion be implemented in decision making in all patients with coronary artery disease?
(2) Is under-use of health care options a bigger problem than over-use and does under-use lead to adverse outcomes in patients not receiving supposedly appropriate therapeutic measures?

Appropriateness has been used for many years[11,12], but are such methods really worth the effort and investment and can they be universally applied to each and every individual presenting in the office of a consultant? These methods have improved and evolved over time, but a few shortcomings need to be pointed out before they are accepted as the gold standard. Consensus panel judgements are influenced by panel composition and the feedback to the participants during the panel process[13]. The participants are not involved with actual physician–patient decision making. Data are obtained from patient records, which may also be a source of error[14,15]. Once a decision of appropriateness or inappropriateness is reached, no attempt is made to return to the primary data or patients' physicians to reassess appropriateness. Another problem encountered is that every institution has its own set of guidelines. Physicians may be confused when confronted with different sets of guidelines for the same therapeutic option. In summary, does adherence to these guidelines really improve health care and reduce costs?

Most of these guidelines are formulated to check for over-use or inappropriate use of health care facilities. The impact of the under-use of these criteria has been demonstrated in this excellent work of Filardo *et al.*[4], which documented a deleterious outcome with increased mortality in patients not receiving the appropriate revascularization procedure. Similar results have also been previously reported by Kravitz *et al.*[3]. These papers clearly send a message to health care managers. In their sometimes over-zealous attempts to cut health care costs, they must keep in mind the potential grave

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implications that under-use of health care options can have on the health of the population. Therefore, practice guidelines are necessary to influence decision making, but should not be used to enforce medical decisions. Sufficient flexibility and divergence from tailor-made diagnostic and therapeutic strategies should be allowed.

Guidelines should be a reference standard against which individual decision making should be assessed, and if in the view of a responsible physician a particular strategy is justifiable, then it should be implemented. Hence the take home message is: coronary revascularization needs to be done when it needs to be done.

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Increased QT dispersion with the D-allele of the ACE polymorphism

See page 663 for the article to which this Editorial refers

Sudden cardiac death may account for up to half the mortality in patients with heart failure[1]. ACE inhibition reduces the risk of ventricular arrhythmia in heart failure, an effect paralleled by a reduction in sudden death of around 50% compared to vasodilator therapy[2]. The HOPE study[3] has extended our knowledge of the benefits of ACE inhibition in those at coronary risk but with normal left ventricular function, demonstrating reductions in death, myocardial infarction and cardiac arrest as well as heart failure. A recent meta-analysis has also confirmed that a substantial reduction in sudden cardiac death occurs in patients treated with an ACE inhibitor early after myocardial infarction[4]. Although ACE inhibitors are known to favourably influence the structural remodelling of the heart after myocardial infarction the mechanisms by which they improve survival are not well understood.

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