Editorial comment

Prognostic information in administrative co-morbidity data following coronary artery bypass grafting

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The European System for Cardiac Operative Risk Evaluation (EuroSCORE) was developed by surgeons in Europe to provide a tool to predict early mortality of patients undergoing heart surgery [1]. EuroSCORE is being used in a number of ways since its introduction in 1998. One important feature is its usefulness in counselling individual patients and their families about the risks of a suggested operation and to choose the best treatment option for patients with complicated medical histories. For instance, EuroSCORE and Society of Thoracic Surgeons (STS) scores are being used to select patients for new percutaneous valve techniques.

EuroSCORE can also be used as an indicator for quality of care when comparing the score with the actual outcome. It provides a risk stratification system that gives meaning to comparing different units, surgeons or countries that otherwise may not be comparable. It is fundamental that the risk stratification system is objective, precise and resistant to manipulation to ensure that conclusions drawn from such comparisons are valid. EuroSCORE has been investigated thoroughly and some shortcomings are known. In an effort to improve the systems, new data sets from all over Europe will be collected in the near future (http://www.euroscore.org).

The article by Abildstrøm and co-workers on behalf of the Danish Heart Register in this issue of EJCTS aims at using administrative data from the Danish National Patient Register to calculate a co-morbidity index [2]. Information about disease codes in discharge letters of all admissions up to 1 year prior to coronary artery bypass grafting (CABG) forms the basis of the register. The register contained information about severity of heart disease and co-morbidities (malignancy, diabetes with complications, cerebrovascular disease, acute or chronic renal failure and chronic obstructive pulmonary disease). In addition, age, gender and information about isolated CABG and acute surgery were included. The prognostic power of the co-morbidity index with regard to actual 30-day mortality was compared to the simple additive EuroSCORE and found equal. The authors conclude that a co-morbidity index based on administrative data allowed meaningful comparison of institutional performance equal to the additive EuroSCORE registered in a clinical database. The co-morbidity index performed well in the current study in patients undergoing coronary surgery. The results presented by Abildstrøm and co-workers are interesting from a scientific point of view.

However, this approach has serious drawbacks, limiting its use for comparison of institutional performance. Although co-morbidities are an important part of the EuroSCORE, the EuroSCORE contains much more: for example, information on unstable angina, endocarditis or critical preoperative state. In some groups of patients, the co-morbidity score is bound to perform badly, for example, in type A-dissections or acute endocarditis. These patients may have no or few prior admissions. Nevertheless, they carry a high perioperative risk. Cardiac surgical units operating on many dissections, etc., will inevitably perform poorer, compared with units where only elective coronary surgery is being performed. In addition, diagnosis coding for the sake of the discharge letter is often performed by junior doctors or administrators without quality control. By contrast, in our unit, coding for the EuroSCORE is performed by surgeons or cardiac anaesthetists prior to surgery and quality controlled in a three-step process, before data are collected in the institutional database. The information from institutional databases of all cardiac surgical units is passed on to our Norwegian national database resulting in a reliable basis for quality control. The author believes that such a process should be the minimum requirement for data used for comparison of institutional performance. Moreover, a national database of diagnostic codes where patients can be identified would probably violate privacy laws in a number of countries.

References


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