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Research Letter

Real postoperative complication rates: a key parameter that is not monitored

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Dear Editor

I have no evidence that any surgery service in the world audits all the morbidity associated with the procedures that it carries out. This means that patients, surgeons, society, and health authorities lack information on a key parameter of the quality of surgical care.

Scientific publications mention postoperative complications, but do not usually specify the methodology used to assess them or the identity of the person or persons who have audited the results. Mild postoperative complications, despite of their significant economic impact, tend to be overlooked[1]. As a consequence, the results published may not reflect the reality, and may be misleading.

Some of the consequences of the lack of monitoring of postoperative complications and the advantages of monitoring them are described in *Table 1* .

Today, the reporting of all postoperative complications and comparison of postoperative complication rates is feasible at minimal economic cost. The Clavien–Dindo classification[2] of postoperative complications is an intuitive, easy-to-use, classification system. It is intended to avoid subjectivity, and just to

Table 1 Consequences of the lack and advantages of monitoring postoperative complications

Consequences of the lack of monitoring of postoperative complications
There are no reliable local or international registries of postoperative complications; the morbidity associated with each surgical procedure is unknown
Misinformation for the patient, surgeon and health manager
Inability to compare morbidity between different services
Decisions regarding the centralization of complex procedures are based on political factors or on the volume of interventions already performed, not on the results obtained among all candidate services
Accreditation of surgery services according to a process does not require an audit of postoperative complications in the units considered
The absence of audit of postoperative complications can produce the paradox that surgeons to come to be trained in surgery services that perform surgical procedures with extremely poor real results
Numerous surgical services begin to perform advanced and novel surgical procedures; the lack of external auditing and transparency means there is no way of knowing how these patients progress after surgery
Advantages of monitoring of postoperative complications
Brings objective results to surgeons to know and improve their practice
Gives patients real and complete information with which to make decisions
Provides objective data for health service managers to make financial decisions and allows the redistribution of limited economic resources in line with specific needs, rewarding the best
The ability to determine optimal results; identification of errors enables improvements to be introduced and reduces postoperative complication rates
A significant reduction in costs owing to the decrease in postoperative complications[1,2]; the ability to determine efficiency and enhance cost-efficiency
The identification of benchmark surgery services
The centralization of complex and/or less frequent procedures
The accreditation of units or areas of knowledge according to audited objective results
The prioritization of teaching and training in surgical techniques and patient management at benchmarked services
The ability to determine the standard of real and feasible morbidity of different surgical procedures; Creation of credible textbooks of outcomes based on real/audited results.
Increase in the quality of publications presenting surgical results
The implementation of a policy for palpable, objectively assessed, improvements throughout the hospital network

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consider the most severe complications. In 2013, Clavien's group developed the Comprehensive Complication Index (CCI)[3]. This score is a numerical scale from 0 to 100 that includes all postoperative complications classified according to the Clavien–Dindo system. The CCI allows comparisons of morbidity between different surgical techniques in different surgical services worldwide. The two indices have been validated from clinical and economic perspectives in all procedures performed in a general and digestive surgery service[1,4].

In previous work[1,4,5], proposals have been made for deciding how postoperative complications should be recorded and analysed. The average time taken to evaluate complications at 90 days after surgery and to record them in a spreadsheet ranges from 5 to 10 min per patient[5]. The analysis should include all patients undergoing surgical intervention and all surgical services. It is important that the recording of postoperative complications should not be seen as a punitive measure, but as part of an attempt to improve healthcare. The final record of postoperative complications should include an analysis of all the medical and nursing reports as well as the specific form in the electronic medical record, if available. In addition to the CCI, comparisons between surgical units of a particular technique may focus on specific postoperative complications that are characteristically associated with the technique, such as anastomotic leak, fistula, reoperation, and surgical-site infection[4].

Reports of postoperative complications made by the surgeons themselves are subject to bias and cannot be considered to be reliable. Most important bias, in the present author's view, is the fact that the better the recording system, the worse the results. Postoperative complications should be assessed by the physicians at the surgery service involved and by impartial auditors with no conflict of interest. To compare the results of different services, the operations compared should be as similar as possible in terms of complexity, and the patients compared should be similar in terms of disease severity[1]. The audit should be maintained permanently and performed for all patients, not random samples[5].

Surgeons cannot hide results from patients, from society as a whole, or from the scientific community. All postoperative complications in all surgical services should be audited objectively and impartially by an external auditor, such as the central health authorities. The allocation of resources should reward the benchmarking services, but at the same time should aim to improve those that are lagging behind. All of this will improve costs. In the coming years, the notification of audited postoperative complications may well establish itself as the measure with the greatest impact on achieving health transparency, improving healthcare quality, and reducing economic costs both for individual patients and for society in general.

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