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14:00-14:45

Room 3C

Preoperative evaluation is a complex, multidisciplinary process, which includes the patient’s primary care physician (family physician, paediatrician, at times even a surgeon) and a number of referral physicians (surgeons, endoscopists, radiologists) who will eventually perform the procedure.

A cohort of specialists may be involved as well: anaesthesiologists, when anaesthesia support is required, cardiologists, pulmonologists. But other specialties play also a role, like internal medicine, radiology, laboratory medicine, as well as physical therapy, rehabilitation and haematology/blood bank.

Surgical procedures (though the process is very similar for endoscopic, interventional radiology and cardiological procedures) may be emergent or elective. They can be performed on acutely or chronically ill patients or on otherwise healthy subjects. Furthermore, those procedures may involve high or low risks for patients.

Therefore, preoperative evaluation can involve many diverse and complex structures and pathways, particularly because rather different models of health care systems are implemented throughout the western world and even within the European Union.

For the purpose of the present refresher course I will address the preoperative assessment for elective surgery.

The field has been extensively covered by a host of authors, and a number of excellent systematic reviews are available. Probably the most frequently cited is the one produced by Munro and colleagues [1] in 1997. More recently, clinical guidelines have been developed on both sides of the Atlantic by the Institute for Clinical Systems Improvement (ICSI) in the USA [2] and by the National Institute for Clinical Excellence (NICE) in the UK [3].

A number of national societies of anaesthesia have also published documents related to preoperative assessment: the American Society of Anesthesiologists (ASA) [4], the Société Française d’Anesthésie et de Réanimation (SFAR) [5], and the Società Italiana di Anestesia, Analgesia, Rianimazione e Terapia Intensiva (SIAARTI) [6], just to mention a few.

What is thus the evidence? On a large scale, methodologically speaking, very dismal. The field, even if we focus on elective surgery, is so vast that indeed it is difficult to attain sound evidence. However, we can be quite confident on specific issues that sufficiently robust evidence is available. What I consider to be the best statement concerning the state of the art for preoperative evaluation is the following from the introduction of the NICE report:

“The following guidance is based upon the best available evidence. All of the recommendations are grade D recommendations, which are based upon level IV evidence – that is, expert opinion derived from a consensus development process and the clinical experience of the Guideline Development Group” [3]. A consensus development process is also emphasized in the the ASA [4] and the SIAARTI [6] documents.

All the above referenced documents [1-6] indicate that a preoperative basic health assessment is necessary and sometimes is all what is needed [7].

Who should perform such an assessment is much less clear. It can be done by the patient’s primary care physician or surgeon [2], but preanaesthesia evaluation is also necessary when anaesthesia administration is required [3-6]. In this case modalities are very much dependent upon the organization of the anaesthesia service [4, 6, 8]. Specific patients groups may deserve specific approaches, whether they are geriatric [9], paediatric [10] or hospitalised adult [11] patients. Appropriately trained nurses have been shown to perform adequately as well [12].

What is the purpose of the preoperative assessment? Across the board, it is clearly evidenced that its purposes are mainly: 1) discovery or identification of a disease or disorder which may affect perioperative care, 2) verification or assessment of an already known disease, disorder, medical or alternative therapy which may affect perioperative care, and 3) formulation of specific plans and alternatives for perioperative care. A preoperative assessment should be used to identify risks for the patients, particularly cardiovascular risks [13], applying simple tools, such as the ASA physical status grading system [14], and the surgery grade of severity system [3]. It is important to note that “the patient needs to be aware that the preoperative assessment is not a substitute for preventive services, but the preoperative evaluation may be used as an opportunity to address preventive services” [2].

When should preoperative assessment be performed? Most evidence indicates that evaluation should precede surgery, even though a definite time frame is not set to allow for further evaluation and testing if needed. Anaesthesia evaluation by itself [4] might be performed prior or on the day of surgery, depending upon the patient’s medical condition and the extent of surgery. However, this implies a preoperative basic assessment previously carried out by others than anaesthesia personnel.

Further evaluation and testing should not be part of routine evaluation, and should be obtained only for reasons related to either the patient’s medical status, or surgical procedures. This includes, but is not limited to, a resting ECG, a standard chest roentgenogram, blood testing, lung function evaluation, and other specialist’s consultation [1-6].

Indiscriminate (this is essentially the meaning of the term “routine”), or generic (as NICE [4] names the practice) undertaking of the above tests has no evidence of changing significantly the anaesthetic management of patients, less so of impacting on patient’s outcome. Munro and colleagues [1] estimate, for instance, that routine chest roentgenogram is of some significance in less than 9 % of all surgical patients, and ECG might lead to change of management in only 0-2.2 % of unselected patients. On the other hand, it is well known that a variety of those tests are somewhat abnormal in a variable number of patients, and that the prevalence of abnormalities increases with age and ASA physical status [1, 4], although age by itself should not be taken as a criterion for performing a test in a specific age group.

Unfortunately, lack of evidence is not the same as evidence of the contrary, and such a lack of evidence of usefulness of testing might be argued as not be a reason for their rebuttal. A notable exception is the evidence of non-usefulness of any testing in cataract surgery under topical anaesthesia. Again, this is not in the general surgical population, but in a very large series of selected patients (ASA II and III, over 55 years of age), Schein et al. [15] were able to demonstrate that outcomes were comparable whether preoperative testing without medical reason was carried out or not.

The task of the future will be the identification of specific patient groups and the definition of sound clinical guidelines of efficient preoperative testing, derived from a consensus development process, as many anaesthesia societies explicitly suggest in their documents [4-6].

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