Emergency Laparoscopy

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Editors

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Preface

" . . . The development of new instruments and the refinement of established techniques will lead to the expansion of minimally invasive surgery to new areas of interest for general surgeons. However, one must realize—and accept, that minimally invasive surgery only represents a different technique that offers an alternative to open surgery. The indication for surgery are similar for both minimally invasive surgery and open surgery . . . It is important for all general surgeons to keep up with this trend and become an integral part of the revolution in medicine that the advent of minimally surgery has wrought . . . " (H.S. Himal: Minimally invasive (laparoscopic) surgery. The future of general surgery. Surg Endosc 2002;16:1647–52).

Without any doubts, there are three truths in this never old editorial. The first is the expansion of laparoscopy to wider areas of surgical interest, such as the emergency. The second is that this expansion must follow the same rules of the open approach. Third, surely the most important: every surgeon should have the "laparoscopy" in his/her background as an indispensable tool. Let us go back to the first: expansion. Laparoscopy has always been mentioned as a revolution and might be the only true revolution in surgery in the recent past. Revolution because it has changed the way we think and act as surgeons. Again, revolution because the scientific community has not easily accepted it and agreed about its fields of applications. Finally, today any surgeon cannot disregard the right value of laparoscopy, either when it is accepted as the "gold standard" procedure or when its outcome is similar to that of the open approach, and its potential therapeutic value has yet to be proven. However, nowadays, after the revolution *" . . . as doctor and surgeons our mission is to treat patients to the best of our knowledge and expertise. The exponential knowledge eruption and the nearly daily skill-related technology advances in minimal invasive surgery make it more than ever mandatory that we, surgeons and doctors, humbly examine, analyze and objectively audit our own practice . . . we have to recognise and discard our acquired biases, and base our diagnostic procedures and surgical therapy on "hard" evidence . . . " (Fingerhut A. Do we need consensus conferences? Surg Endosc 2002;16:1149–1450).*

Therefore, the mission of each surgeon has two aspects that cannot be separated: as clinicians we have to give our patients the best possible treatment, and as scientists we are committed to examining our data to find out the "hard evidence." However, the "hard evidence" needs to be continuously reassessed and updated

because our knowledge is always expanding and the renewal of the technology we use is constant.

We are forced to keep up with the times, continue confronting each another, and study. We are supposed to review and update our knowledge, first through the recognition of our limitations and bias, under the light of the scientific evidence, universal "compass" that guides us in the open surgery as in laparoscopy.

The duty of every surgeon to keep abreast also with the daily evolution of laparoscopy must be paid in every hospital, whether small or large. This is the main idea that has driven us, editors and authors, to write this book.

In 2011, with the same group, we had updated the milestone 2006 EAES consensus conference guidelines about emergency laparoscopy. We did it sharing our experience and knowledge with all the other actors of the emergency surgical theater: anesthesiologists, emergency room physicians, radiologists, nurses, and patients. Time continues to move on, and a tremendous amount of literature data is the result of the constant evolution of our profession. For this reason, we decided to stop again, "quite rightly," to use Fingerhut's words, as we did yesterday, and to review what we had done 4 years ago in light of the latest evidence on the topic that every surgeon has to face daily: the emergency.

The principal idea of this update is to offer to all our colleagues and students the possibility to have almost on one hand all the actual evidence about emergency laparoscopy. Like 4 years ago, we wish to state again: "*Every surgeon has generally developed a fine ability to decide the best approach according to a personal evaluation of her/his own experience, taking into account the clinical situation, her/his proficiency (and the experience of the team) with the various techniques and the specific organizational setting in which she/he is working. This book has been developed bearing in mind that every surgeon could use the data reported to support her/his judgment*" (Agresta F, Ansaloni L, Baiocchi GL, Bergamini C, Campanile FC, Carlucci M, Cocorullo G, Corradi A, Franzato B, Lupo M, Mandalà V, Mirabella A, Pernazza G, Piccoli M, Staudacher C, Vettoretto N, Zago M, Lettieri E, Levati A, Pietrini D, Scaglione M, De Masi S, De Placido G, Francucci M, Rasi M, Fingerhut A, Uranüs S, Garattini S. Laparoscopic approach to acute abdomen from the Consensus Development Conference of the Società Italiana di Chirurgia Endoscopica e nuove tecnologie (SICE), Associazione Chirurghi Ospedalieri Italiani (ACOI), Società Italiana di Chirurgia (SIC), Società Italiana di Chirurgia d'Urgenza e del Trauma (SICUT), Società Italiana di Chirurgia nell'Ospedalità Privata (SICOP), and the European Association for Endoscopic Surgery (EAES). Surg Endosc. 2012 Aug;26(8):2134–64).

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Note to the Reader

The authors of this book adopted the following methodology for literature search and appraisal: the primary objective of the search was to identify all clinical relevant randomized controlled trials (RCT) and meta-analysis. Afterward, other reports, population-based outcome studies, case series, and case reports have been also included. A systematic review based on comprehensive literature search has been made on PubMed according to the following criteria: *Limits Activated*: *Humans*, *Clinical Trial*, *Meta-Analysis*, *Practice Guideline*, *Randomized Controlled Trial*, *Review*, *English*, *All Adult*: *19+ years*, *published in the last 20 years*. *Search details*: [(("*laparoscopy*" [*MeSH Terms*] *OR* "*laparoscopic*" [*All Fields*]) *AND* ("*condition-specific key word*" [*MeSH Terms*] *OR* "*condition-specific key word*" [*All Fields*])) *AND* ("*humans*" [*MeSH Terms*] *AND* (*Clinical Trial* [*ptyp*] *OR Meta-Analysis* [*ptyp*] *OR Practice Guideline* [*ptyp*] *OR Randomized Controlled Trial* [*ptyp*] *OR Review* [*ptyp*]) *AND English* [*lang*] *AND* "*adult*" [*MeSH Terms*] *AND* "2010/25/*11*" [*PDat*]: "*2015*/10/*31*" [*PDat*])]. Then, limits regarding language, age, and publication date and study type have been removed, to search for additional papers. Cross-link control was performed with Google Scholar and Cochrane library databases. The full text paper was obtained for all relevant articles. The papers have been selected and classified on the basis of the highest level of evidence, design of the study, and most recent publication. The 2011 Oxford hierarchy for grading clinical studies according to levels of evidence (LoE) has been used (http://www.cebm.net/index.aspx?o=5653). Studies containing severe methodological flaws have been downgraded as necessary. For each intervention, the validity and homogeneity of study results, effect sizes, safety, and economic consequences have been considered.

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16.1 Introduction

Laparoscopic surgery (LS) is increasingly used in the emergency setting [1]. It is of particular interest and efficacy for the diagnosis and treatment of acute conditions. In fact, emergency laparoscopy can be safely undertaken if there is an appropriate patient selection, the surgical team is adequately experienced, and there are sufficient resources to allow potentially more complex operations.

The advantages of LS are well established: better postoperative outcomes and pain management and significant reduction in the duration of hospital stay because of earlier recovery with decreasing of health and social costs [1].

The application of laparoscopy in emergency surgery involves several organization problems.

Firstly, surgeons should have large experience in laparoscopic techniques. Secondly, nurses should be trained in the management of surgical patients with acute diseases and all operators in the operating room (OR) must be confident with every technology and device required in LS.

Finally, the perioperative environment is multidimensional, dynamic, and composed of multidisciplinary teams. Moreover, providers of all specialties are facing with caring of patients with multiple risk factors in a complex condition. Even with a comprehensive knowledge of the most current strategies, the application of good communication skills within the surgical team remains a fundamental tool to achieve best practices. In this light, nurses contribute to the overall success

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of the multidisciplinary management assuring a "communication bridge" among providers, patients, and caregivers.

It is well known that nurses play an important role in providing preoperative education, perioperative care, and postoperative evaluation [2]. Moreover, postoperative course is not only influenced by physiologic outcomes of disease but also addresses to the biopsychosocial responses on the health-illness continuum that are necessary to improve the quality of life even in emergent surgery.

In recent years, nursing responsibilities for decision-making in patients care have been expanded [3, 4]. The evolution of nursing is related to certain levels of education and practice to fill the important roles within the multi-professional team in the surgical area. In this light, the nurse leader should create learning opportunities and promote educational programs in order to improve the nurse practice in specialized surgical teams.