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Invited Editorial

General surgery: Present and future☆

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A B S T R A C T

General surgery is going through critical moments in recent years. Problems associated with the evolution and development of the specialty and training programs. Appearance of a sub-especialization in general surgery. All this in the context of an economic crisis of global impact. These changes have resulted in a state of emotional and mental fatigue known as burn out syndrome, in many cases.
However not everything is negative and the development of the minimally invasive surgery techniques, NOTES, and single port surgery have been an incentive for surgeons in recent years. We must not fail to take into account the increase in cost of these procedures at the present time.
I make some reflections about this topics, that although they reflect a very particular opinion I think they show the feeling of many surgeons. I think that in these times we are living in, we must fundamentally improve our efficiency and safety in daily practice.

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General surgery is going through critical moments in recent years. On one hand, and from a negative point of view, we are faced with the problems associated with the evolution and development of the specialty, training programs and the appearance of a sub-especialization which has changed the concept of the specialty and has provided positive aspects but with some drawbacks. These changes have been, in many cases, wearing for surgeons which has led to a state of emotional and mental fatigue known as burn out syndrome.

The positive side provides an open promising future in the development of minimally invasive techniques and technology, as well as surgery through natural orifices. However we must not forget that we are immersed in a global economic crisis that can limit our ability in implementing a development that is usually linked to an excessive increase in expenditure.

I propose to make some reflections about these topics, that although reflecting a very particular opinion I think represent show the feelings of many surgeons.

Regardless of the training systems in each country the surgery, as a preferred discipline ranking, has fallen in recent years. In the United States there has been an overall decrease of a 23%[1] in the intention of studying this specialty, influenced by the cost and time of training, the number of weekly hours of work, the bureaucratization of the same and low remuneration. After 9–11 years training in the specialty with sometimes an 80 h per week workload, the surgeon comes out, firstly older and also, with a debt of between 100,000 and 150,000 dollars,[2] which will cost several years to payback.

In Spain the choice of the specialty of surgery after the examination for intern medical resident (MIR), which allows the access to training for five years, has been relegated to be a demanding specialty with many guards, and where the labor market at the end of the training is currently saturated. Many of these specialists end up working 12-h shifts to cover their basic shifts.

The old figure of general surgeon no longer has a place in developed countries where a single person cannot provide all the necessary care and trends are moving toward the multidisciplinary teams. Consequently, in order to survive in this world of specialization, general surgeons have had to develop toward certain facets of the specialty, limiting their activity to a sub-especialization which requires to consider new options for training and even the creation of new divisions in the specialty. Now we talk about units of endocrine surgery, breast, esofagogástric, hepatobiliary, etc. At the level of the general population entails the need for a greater number of surgeons to do the same as was previously done before these chages.

However it is also true that many papers have shown the results in complex surgeries like surgery of the rectum,[3] esophagus,[4] pancreas,[5] etc. are directly related to the number of intervention/year getting much better results, both mortality and morbidity, those teams more experience and a high volume of patients.

Our patients increasingly educated and trained through the development of the information available primarily by Internet, demand to know our experience, the number of patients operated on a given pathology and our results. Started in countries like England we must centralize low prevalence surgery diseases in areas of influence where they can perform the number surgery, per surgeon and year, that allows to obtain the best results.

Will all these make a difference in the training programs? It is probably necessary to raise a general training for two years and then devote three or four years to the specific training for each of the units depending on its complexity. It seems absurd to train specialists who know how to deal with a certain pathology when in their later career they will never perform it again.

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The burn out syndrome was described in 1974 by Freudenberger[6] in workers suffering from a progressive loss of energy, symptoms of anxiety, depression, motivation and aggressiveness, as a condition characteristic of professional services and therefore to work hard without considering their own needs.

Surgeons work hard, work long hours, deal regularly with life-and-death situations with their patients, and make substantial personal sacrifices to practice in their field. Studies show that a substantial proportion of surgeons experience distress or burn out, conditions that can have negative repercussions for themselves, their families, their colleagues, and their patients. Factors related with the health organization, the daily development of the profession and the lack of incentive and the difficulties of dealing with the customer are added reasons to facilitate their appearance.

Balch et al[7] in an analysis of possible solutions said there is no single formula for achieving a satisfying professional career. Each of us will have to deal with stressful times in our personal and professional lives; we must cultivate habits of personal renewal, emotional selfawareness, and connection with colleagues and support systems and must find genuine meaning in work to combat these challenges.

The revolution of minimally invasive surgery meant a radical change to the concept of conventional surgery done before. Although at first it took time and effort to be accepted by the most conservative, at the present time it has been confirmed, almost all surgery can be performed by videoendoscopic techniques with few exceptions. Once we have learned and trained in a very demanding technique such as laparoscopy it is becoming to develop others that are more difficult without a clear and obvious advantage.

Up to this point is this logical, or is it based simply on a strategy of commercial company with little scientific basis? In an interesting paper entitled "The Future of Minimally Invasive Surgery"[8] carried out in 2004 by the Observatory for Industrial Technology Foresight and the Spanish Federation of Healthcare Technology Companies analysis was performed on the present and future evolution of surgical techniques minimally invasive in order to identify the lines of development that should be followed by companies. Including highlighting the development of virtual simulators, the use of instruments with remote targeting of energy, improving robotics, robotic instrumental and microrrobots, the three-dimensional visualization, improved ergonomic aspects of instrumental equipment, etc. From there they develop innovative products that will be introduced gradually in our daily work, many of which do not seem to provide clear advantages in relation to what we already have but which generally represent an increase in the cost of intervention and form of dependence on the commercial houses.

The surgery through natural orifices, NOTES, represents another developmental paths that has not yet found its final position in daily clinical practice. As recognized by the II SAGES/ASGE WHITE PAPER, 2011[9]: "NOTES is increasingly well Established as a concept and methodology. Rather than being an end point in and of itself, NOTES is a way of thinking that regards the use of a natural orifice in conjunction with flexible instruments…" but "the time line to widespread clinical adoption of NOTES and the ideal entry procedure is unknown and not critically important."

However, we must recognize that the effort applied in the development of these technologies has not been useless. As well Dr. Targarona[10] pointed out the evolution of the NOTES has led us to develop single port surgery, minimizing aggression and progression of interventionist endoscopic techniques that until a few years ago were unthinkable.

This very high cost is difficult to assume whatever is the health care model of the country. Analyzed from the viewpoint of efficiency: is it worthwhile to consider more complex and costly procedures, with hardly better results than those obtained with laparoscopy conventional to decrease a centimeter incision?

It would be questionable. I think that in the current situation of economic crisis authorized hospitals should be limited to research, audit and develop these procedures and technology, and the rest, should improve our efficiency, achieving the best possible results (following the standards) at the lowest cost.

I would not like to conclude without reference to one of the fundamental challenges facing us in the coming years: to achieve safe surgery and enhance the safety of our patients. The World Health Organization[11] issued the Guide to safe surgery within their strategy of World Alliance for patient safety in 2008. The introduction of surgery check list in all our operating theaters. The realization of an appropriate antibiotic prophylaxis that delay the loss of effectiveness of these drugs and diminish the appearance of resistance. A suitable Protocol of anticoagulation for prevention of thromboembolic complications and the knowledge and control of our complications, with the adoption of measures to reduce them, is basic to be able to offer our patients safety in our hospitals and better final results.

Conflicts of interest

None declared.

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