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Scientific Foundations of Surgical Practice

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General commentaries regarding the implications of maintaining open mind and scientific spirit to allow the progression of knowledge, specifically within the field of surgery. How much all these implications are important for the changes of Education and Training we see lately within the surgical area. The matters exposed are of interest to all interested in surgery.

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This brand new Journal finds the greatest part of its "Mission" in the never ending field of promotion of science. Human mind is inquisitive by nature and does not stop trying to find answers to unclear areas, and also by keeping open the lines for discovering new paths for our quality of life. The medical field is rich in this type of work and the surgical one is one of the most active at the moment. It is also a duty of all medical professionals, not only to keep up the updating in knowledge but also to permanently transmit the same knowledge and innovations. A particularity of the Journal of Minimally Invasive Surgical Sciences is to have a widening view for the scope of scientific interests and to be open to the acceptance of papers from other fields of medicine also practicing minimal invasive accesses. This includes any medical speciality technique with this kind of approach, be it cardiology, radiology, nursing or similar ones, either very recent or of more common use and already implanted; it is important to realise what is being done and to compare and evaluate its results. Minimally invasive techniques encompass many specialities and have now became standard or gold choice of treatment for a great number of conditions; this, both in surgical areas and in other non surgical areas like interventional imagiology; being aware of what other specialities do will allow, sometimes, the transposition of techniques and solutions across medical areas. At the same time the field of medical support to surgical patients keeps having new and more satisfactory options to help; in the last issue of JACS (1), a review paper on the use of statins in surgical patients shows surprising results. Statins, being the most commonly medication prescribed to lowering cholesterol, have progressively shown, besides the expected protective effect in the cardiovascular system, to reduce preoperative mortality and to decrease complications in patients submitted to cardiac and vascular surgery Similar benefits have been shown in other surgical settings than those. These effects are related to the properties of statins as anti-inflammatory, antioxidant, immunomodulatory and fibrinolytic agents. Growing evidence is now showing also its benefits in abdominal surgery, this being confirmed by research and clinical studies. More work is required, but a very interesting point is risen, which can have great impact in the life of the many patients using regularly these drugs. This impact can extend to other patients, if the first results are confirmed. Also in other areas – in and out of minimally invasive surgery – scien-

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tific research and new options being given keep growing. Recently, an option for better management of controlling the liver remnant, in cases of major liver resections with surgeries in two steps for disseminated lesions, has been introduced in a much unexpected way (2). While performing a surgery in a patient with perihilar cholangiocarcinoma, Hans Schlitt, from Germany, realised that the liver remnant was too small to sustain the necessary liver function during the post-operative period. He decided to do a selective hepatico-jejunostomy to the left side and, in doing so, he divided the liver doing an in-situ split. He also decided to ligate the right portal vein in order to induce hypertrophy of segments II to III. One week after, out of curiosity, he asked for a CT scan; this showed a great growth of the left liver and he decided to remove the diseased right liver. The patient – only one week after – tolerated surgery very well, having a stable liver function. This unexpected solution – now proved efficient in quite several patients – addresses an important and difficult issue of liver surgery: post-operative liver failure and efficient liver volume. The amount of hypertrophy induced is exceptional, works in record timing (one week) and is still exceptional after removal of the diseased liver. This technique started by being called "In-situ splitting" and was renamed shortly after "ALPPS" (associating liver partition and portal vein ligation for staged hepatectomy). These two examples show how active science new boundaries are reached everyday in all areas of medicine, and the fact is that, even today, things happen, out of the labs and outside lines of research. Inquisitive minds and attentive professionals are all which is necessary to bring under scrutiny positive facts out of the usual. Minimally invasive surgery and techniques are nowadays used all over the world in many places as routine and as chosen options. Many of us still remember the difficulties felt with the introduction of the technique; not only the true introducers, Muhe, Mouret, Perissat, Dubois and others had serious difficulties in seeing their work accepted by the international surgical community, but also, in many countries, the pioneers had to go through similar situations. The "established" surgical practice was not prepared to face such major change in technical approach and most surgical leaders preferred to follow the route of denial, sarcasm and refusal of acceptance. Laparoscopic techniques were already used regularly by Gynaecologists but this did not bring reasons for easier acceptance. Persistence by the international and national pioneers managed to obtain results and minimally invasive surgery started to have the right place in these communities; 25 years after, it is difficult to have the proper prospective of how things were then but, undeniable is the importance it now has.

Laparoscopic surgery brought major and extremely important changes to the way surgery is faced, trained, learned and practiced in our days. Even more than the clinical impact it brought, the implications in the way surgery is viewed by the clinical community, the media and the population in general, has changed the general attitude towards it. Besides, Education and Training have also been tremendously influenced, with a completely new way of looking at the problem. No longer have some procedures to be practiced within the OR, sometimes, unfortunately, at the cost of patients; the paradigm of teaching has changed and education was removed from the OR and from the patients, in a broad sense. The recent introduction of new teaching tools has completed this major change in the paradigm of education.

In togetherness with the change in mentality, this has really been "The second French Revolution" as dubbed by some! But, the beginning of laparoscopic surgery was doomed by an increase in iatrogenic lesions of the biliary tract, fruit of the conditions of introduction of the technique in an "explosive" way, in a non controlled spread of the practice and because of the paradigms of the times: see one, do one, teach one! Despite this, the impact and the benefits shown were such that it became soon the "gold standard" in many countries! The point to be made is that the surgical community cannot afford going through a repeat situation and some of the lessons from then must have been learned. The fact that almost everything is possible to be done through minimally invasive surgery shall not be an excuse to have everything being done anywhere by anyone, without peer control. Changes and Innovations in existing techniques, and introduction of novel approaches and of new techniques and technologies must be done under an appreciative eye and under due and properly set research protocols. Times are different and we must show that science goes step by step to prove results and outcomes and to explain the facts. In parallel we have seen the spread of science and the spread of techniques and technologies. Although we must recognise the benefits and improvements brought to clinical practice by many new types of equipment, we cannot ever forget that the progress of medical and surgical fields is done through science and not through technology; the second is a fruit of the first and should be always seen as such. No matter how amazing new technologies can be and impress, as surgeons, and scientists, we cannot let it be the most important issue.

Authors' Contribution

Jose M. Schiappa contributed 100% to prepare this article.

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References

1. Singh PP, Srinivasa S, Lemanu DP, MacCormick AD, Hill AG. Statins in Abdominal Surgery: A Systematic Review. *JACS*. 2012;**214**(3):356-66.
2. de Santibañes E, Clavien PA. Playing Play-Doh to Prevent Postoperative Liver Failure: The "ALPPS" approach. *Ann Surg*. 2012;**255**(3):415–7.