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Editorial

ROBOT-ASSISTED SURGERY: TECHNOLOGICAL ADVANCE IN THE SERVICE OF PATIENTS OR INDUSTRY PRESSURE?

Cirurgia auxiliada por robô: avanço tecnológico à serviço do paciente ou pressão da indústria?

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The technological advances seen in recent decades have brought clear benefits to patients with disorders of the digestive tract. The development of endoscopy from high and low 50's allowed the early diagnosis of neoplastic lesions, improving the outcome of surgical treatment and creating opportunity for the birth of endoscopic resection with curative.

The development of the apparatus of anorectal manometry and esophageal disease have helped define and delimit the medical and surgical treatment of functional disorders of the digestive tract from the 60's.

The surgical staplers created in the first decades of the 20th century in Hungary and perfected in the 50s in the former Soviet Union, have been popularized by American surgeons in order to standardize various surgical techniques. Staplers allowed the improvement of mechanical suture and anastomosis and low colorectal esofagojejunais that came to be safely performed by many surgeons with proper training.

The 80s saw the birth and development of a major revolution in the last century surgery: minimally invasive operations, also known as laparoscopic operations. This methodology is associated with lower levels of pain and wound infection, reduced length of hospital stay, early return to work and strong aesthetic appeal was quickly accepted by the medical community and patients. Currently, laparoscopic surgery is used successfully in the treatment of most diseases of the digestive system, in compliance with the notions of common sense and ethics.

All these advances in medical knowledge are sedimented. However when one remembers how it was the posture of a substantial portion of the academic community before these new techniques, amazing memories plague us.

How many of us have heard of eminent professors or even sometimes were spokesmen for phrases like:

"The endoscopic resection even if restricted to certain morphological and histological subtypes of early gastric cancer is a crime"

"The colorectal anastomosis manual is far safer than the double-stapling

"Laparoscopic cholecystectomy is associated with more complications. Laparotomy is still the preferred access route "

"Operating cancer by laparoscopy is insane for several reasons, among them the fact that the rate of implantation in the portals is prohibitive."

These views expressed by many as true at the time, did not withstand the light of clinical experience and are now outdated. The endoscopic resection of early cancers of the digestive system, provided they obey the rules while maintaining internationally accepted goals and restricted to the indication and contraindication of the recommendations is associated with survival and curability rates similar to those obtained with more extensive procedures and quality of life significantly higher.

The diffusion of surgical staplers allowed sediment that anastomosis is as good or better than manual anastomosis, if carried out by surgeons with proper training and correct statement.

The laparoscopic approach is preferable not only in the treatment of gallstones as well as in all benign digestive tract, especially in gastroesophageal reflux disease and diverticular disease of the colon.

Finally the treatment of cancer of the digestive tract by laparoscopy has ceased to be regarded as heresy. The results of randomized prospective studies in the U.S. and Spain demonstrate the feasibility and safety of this method in colorectal cancer treatment. Furthermore, preliminary observations suggest that laparoscopy want to be related to better survival rates due to better postoperative immune response. Recently experience with cancer of the esophagus and stomach in Japan and Korea seem to point to the same effect as to the benefit of this methodology.

At present, the proposed robot-assisted laparoscopic surgery has put us in front of dilemmas like those that surrounded the advent of laparoscopic surgery.

The reliability, accuracy, safety and reproducibility than the use of robots developed in this decade in other areas, eg in the automotive industry, allow us to glimpse the robot-assisted surgery is here to stay.

Robotics brings benefits to the practice of gastrointestinal surgery. Perhaps the most obvious has been the improvement of the limitations with which the laparoscopic face. The use of robotics in surgery determined increased dexterity, return to three-dimensional view, magnification and miniaturization of movement, possibility of remote operations, suppression of the tremor of the surgeon and gains in ergonomics.

Were recently published the first meta-analysis on robotic surgery, demonstrating that the use of this method is associated with at least similar results to those obtained with the laparoscopic approach, with promising expectations of improved techniques of oncologic surgeries.

However some questions arise and can not in any way be forgotten. The high cost is the most salient of all. How to justify the purchase and use of this technology in a country with enormous economic difficulties like ours? How to ensure universal access of population to new treatment options? Past experience shows us that the price of technology is linked to the production scale equipment. Most likely this cost will fall over the years. Other questions are legal and ethical aspects of the procedure and training necessary for the practice of robotic surgery, as expressive as they are for the laparoscopic intervention itself.

All these aspects should be discussed by medical societies and universities, to develop recommendations obtained in a consensus that can guide fellow Brazilian surgeons. The Brazilian College of Digestive Surgery participates in forums such as the Associação Paulista de Medicina, where this topic is discussed extensively. The accumulation of literature makes it clear that this technology brings benefits that can not be simply discarded by the higher cost involved. There is a need for community participation and academic medical societies in this debate in order to legitimize this emerging methodology in clinical practice depending on the results that come to watch.