



Laparoscopic repair for bilateral inguinal hernia. A technique that may be the standard in the future

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Response to: Ramia JM. Laparoscopic inguinal hernia repair: a cost-effective procedure? *Laparosc Surg* 2019;3:7.

Piccinni G. Trans abdominal patch plasty for bilateral groin hernia: is it a cost-effectiveness procedure? *Laparosc Surg* 2019;3:12.

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I want to thank Ramia (1) and Piccinni (2) for their kind editorial to the paper I recently wrote with my colleagues at *Ann of Surg* (3). It is a great honor to be commented by such great surgeons.

What my colleagues both underline in their editorials is the difficult worldwide diffusion of laparoscopic inguinal hernia repair among surgical community, even if already several papers clearly showed its advantages and the technique is available since the past decade (4). As they stated, there are several reasons for that, among with the learning curve might be the most relevant one. It is true that laparoscopic hernioplasty needs a high number of procedures before pass the learning curve. However, nowadays, almost all more complex surgeries are proctored by experienced surgeon who already passed their learning curve and which are able to decrease the minimum case index required from the trainers. Currently, is not anymore acceptable that a surgeon starts a new technique alone, even if he might have seen a number of procedures before. In fact, concerning laparoscopic inguinal hernia, it is already included in many training programs of surgical resident. Therefore, for the above reason, in my opinion, there would be a need for a better definition of what a “learning curve” means in a modern era.

Longer operative time have been also included among the reasons of a low diffusion of laparoscopic inguinal hernia. However, longer operative time should never overcome the quality of a procedure. This concept has been well defined in all acceptable standard laparoscopic procedures, such as in the colectomy, where the longer

operative time compared with the open approach is longer, but less important compared with the better laparoscopic early post-operative outcomes. This concept should be transferred also to the laparoscopic inguinal hernia repair. Operative time might be higher for unilateral hernia, but, according to my study, operative time is not such high for bilateral hernia as no statistically differences have been found.

The last main reason for a difficult diffusion of this technique might be the costs as well. However, my paper underlines that a higher cost is well balanced by a better post-operative result compared with the open technique.

In fact, what my research clearly detect, is that lasting post-operative pain is clearly lower compared with open approach, and this result is concomitant with previous similar papers (5). The post-operative lasting pain in the open inguinal hernia is still an issue and its real incidence is still not well known, likely to be higher than published in the literature. This pain might be due to the location of the mesh, which in the retroperitoneal space cause less discomfort compared with that of the inguinal space of the open approach. For this reason, we might consider that, differently from others laparoscopic approach, the laparoscopic inguinal hernia repair entails a totally different technique from the open one. It is incorrect to consider the laparoscopy as a different approach for repair the hernia. It is a different technique as another surgical field is dissected where the mesh is finally placed, not comparable to the open technique.

Laparoscopic inguinal hernia repair is evolving further

as modification of the technique are been introduced, such as the stiches to close the peritoneum in the TAPP replacing the tackers. This modification, as Piccinni stated in its editorial, will further reduce post-operative pain (2). Furthermore, the use of biological glue to fix the mesh and close the peritoneum, will reduce also the operative time. In fact, it is our current practice to avoid the use of the tackers or stiches, moving toward a simplification of the technique.

As Ramia says in the Editorial (1), someone may speculate that general anesthesia required for the laparoscopy may be not comparable with the epidural anesthesia of open technique, specially in terms of day-hospital discharge. However, patients that underwent general anesthesia can be discharged the very same day of the surgery as well, such as laparoscopic cholecystectomy. Therefore, laparoscopic hernia repair does not entail that the patient cannot be discharged the same operative day.

With this dissertation, I do not want to say that laparoscopic repair should totally replace open approach. My opinion is that open technique, with epidural or local anesthesia, is still an effective technique, but it could be more suitable in certain cases where general anesthesia cannot be used. On the other hand, laparoscopic might be more beneficial for obese patients, bilateral hernias and recurrences as well. Esthetics also are very important as we have to consider that for someone, having scars in the abdomen may be not beneficial for models or body sculptures. The last cases may prefer the open approach with inguinal scar.

In conclusion, laparoscopic inguinal hernia is a technique that although its higher cost clearly improves post-operative results. In a near future, this technique may be considered the standard for care.

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