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Tatme, Tips to Start the Learning Curve

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Rectal cancer surgery has historically been a complex procedure. Multiple factors explain the high local recurrence rates reported over time. In addition to the biological factors inherent to the disease itself, this situation is conditioned by the location of the rectum in the pelvis, an anatomical area surrounded by bone, vascular and nervous structures, as well as genitourinary organs in the rectal anterior aspect. In this regard, we know that this high percentage of local recurrence is directly related to the rate of margin involvement. This surgery, already challenging for the surgeon, is much more so in the case of bulky tumors, especially in men, obese and with narrow pelvises.

Transanal total mesorectal excision (TaTME) was disseminated as of 2010 with the publication of Sylla,[1] in order to correct the mentioned difficulties by means of the combined ascending-descending approach. On the other hand, considering this surgery as a new and little explored approach, new and serious complications related specifically to the procedure appeared. Currently, there are a large number of reports, courses and conferences related on the technique and its oncological and perioperative results. All of them have tried to raise the safety of surgery in its multiple spheres.

In this review, without the aim of constituting a chapter on surgical technique, we will try to convey some concepts learned during our initial experience with TaTME. Some that may seem obvious at first glance should not escape our control.

1. Time: We must assume that these are long procedures, even with simultaneous equipment for abdominal and transanal approaches. This will help us to plan our surgical day and to dedicate the necessary time to the most difficult steps of the operation.
2. Selection of cases: We believe it is preferable to start the experience with lesions of the middle rectum, although this technique is ideal for those of the middle and lower rectum. The latter have the additional inconvenience of dissecting the perineal body on the anterior aspect, where the dissection plane is confused with the muscular layer of the rectum and the prostate, adding surgical time due to fear of urethral injury or tumor perforation .
3. Simultaneous teams: Using two experienced teams, one to perform the abdominal dissection and the other the transanal dissection brings obvious benefits in operative time. If this is the situation, the positioning of the patient's lower limbs does not require a very forced lithotomy position. A minimal elevation, sufficient to place the transanal device, will give the abdominal team greater freedom of movement, especially when descending the splenic flexure. Similarly, both towers can be placed to the left of the patient.
4. Device: Today there are two possibilities when choosing the transanal device. One, disposable (GelPOINT™ Path-Applied Medical, Rancho Santa Margarita, CA, USA) and the other reusable (TEO™ Karl Storz, Tuttlingen, Germany). Both have their pros and cons. Having used both, we have lately opted for TEO for its reliability and durability. However, we reserve the use of the GelPoint™ for cases in which the pursestring is more difficult to perform.
5. Pursestring: The construction of the distal pursestring cannot be underestimated. For some authors, doing it incorrectly has led to high rates of early recurrence in some series, an opinion that we share.[2] First of all, you will save time if you can perform it with a long needle holder from conventional surgery through the transanal device. It is especially important to place each stitch immediately next to the previous one, with no space between them, to avoid spiraling the suture. If the pursestring does not seal (this is verified by passing a Maryland clamp through it), it must be redone as many times as necessary.
6. Pneumorectum-pneumopelvis: The wobble or oscillation effect present in this technique when conventional insufflators are used can be improved by the interposition of a semi-rigid bag (the urine collector), at the expense of less distension of the cavity. On the other hand, there are reports of air embolisms in patients undergoing this surgery.[3] The first manifestation of this complication is the amputation of the capnogra-

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phy curve, a situation that must be monitored by the anesthesiologist and transmitted to the surgeon in order to take the corresponding behaviors. In our experience, there was a case that due to hemodynamic collapse required the suspension of the pneumorectum and immediate conversion.

7. Thickness of the wall: It is important to become familiar with the muscular layer itself and its thickness. Confusion can lead to dissection of the rectal wall, thus compromising one of the primary objectives of this technique, which is to improve the quality of the surgical specimen. Identifying the muscle layer and sectioning it along its entire circumference from the beginning will make it easier to find the plane of dissection towards the mesorectal fascia. We find posterior or anterior dissection easier than lateral dissection. In women, vaginal examination can help identify the correct dissection plane.
8. Extraction: After completing the dissection we always extract the specimen through the abdomen, generally through a small Pfannenstiel incision. We avoid extraction through the anus to respect the indemnity of the mesorectum and avoid over-distension of the sphincter.

Last but not least, we consider it essential to highlight some concepts, perhaps the most important, that we were able to experiment with in relation to the need for preparation and the volume of cases. Having taken theoretical-practical courses, as well as having been assisted in the first cases by an experienced surgeon was essential when it comes to correcting the problems and concerns that necessarily arise when facing a surgery to which we are not used. Specifically, it is common to need a guide to recognize the planes during transanal dissection. This is reflected not only in the operative times, but also in the reduction of complications. On the other hand, although there is no consensus on the number of procedures required to overcome the learning curve, it has been calculated between 20 and 50 cases.[4] For this reason, the lack of a sufficient volume of patients with rectal cancer and number of transanal procedures will necessarily have a retarding effect on the curve.

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