



Transanal treatment of rectal cancer by soft platform

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The first approach to the management of rectal cancer was transanal, and it predated the era of laparotomy (1). Over a century passed before a transanal, this time endoscopic approach would be grabbing the headlines (2). This endoscopic approach consisted of a rigid platform, which required a shallow learning curve and a capital budget purchase. The latter factor most likely limited its popularization in the United States given the financial accountability of private institutions requesting sufficient patient volume. Hence, it is not surprising that an American surgeon developed and implemented the concept of soft platform named transanal minimally invasive surgery (TAMIS) (3).

The procedure is performed by inserting a disposable FDA-approved single-incision port in the anal canal with the patient prone or supine depending on the location of the lesion in the rectum. A pneumorectum is created insufflating CO₂, and laparoscopic instruments are inserted. A retrospective cohort study including 50 patients undergoing TAMIS reported a 4.3% rate of positive margins for malignant tumors and 8% rate for benign tumors (4). Notwithstanding the opportunities for better visualization, simpler technique and less expensive instrumentation, TAMIS is not flawless. Its limitations include: restricted working angles within the confined space of the rectal lumen, and external torque in attempt to compensate for the lack of instruments' articulation (5).

It should not be surprising that the above-mentioned limitations of laparoscopic instruments created an opportunity for a robotic transanal approach. One of the goals of a robotic soft platform would be to facilitate the suture closure of an anterior rectal wall defect (6). Clearly, the 360° range of motion of the robotic instruments in

the rectal lumen is the key advantage. The reassignment of the robotic arms from left to right and vice versa after instrument crossing and the 3D high-definition visualization allow for instrument manipulation similar to open surgery. Cadaveric studies have shown robotic soft platform to be a precise method for local excision of 'pseudolesions' allowing surgeons unprecedented control of the operative field (5,7,8). The only available clinical data consist of few case reports and one multicenter study including 16 patients only (5,7-16). The latter study, however, reported positive margins in 2 of 16 cases (13%) (16). Alongside with advantages, a robotic soft platform has limitations, such as learning curve and cost.

The main focus of an editorial on transanal approach to rectal tumors should not be solely the surgical technique involved but rather the appropriate applications to clinical practice. To that end, the naïve reader should take with a grain of salt "randomized" studies on transanal rigid platform for rectal cancer claiming oncologic outcomes similar to total mesorectal excision (TME) (17). In fact, reliable data suggest that transanal excision may result in inferior oncologic outcomes including higher risk of cancer-related death (18). Therefore, the proper indication for transanal excision by soft platform is benign tumors of the rectum. With regard to differences between rigid and soft platform, it is the authors' opinion that what matters is not the technical aspects but rather the type of healthcare system. As a matter of fact, a rigid platform would be purchased with taxpayers' money in a government run healthcare. In conclusion, transanal excision of rectal cancer (regardless of the platform being rigid or soft) should be restricted to patients with prohibitive comorbidities precluding TME or offered for palliation.

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