

Perineal pseudocontinent colostomy: an alternative method to promote patients' satisfaction and safety?

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A review of the advantages and disadvantages of perineal colostomy is interesting [1]. Within the community of colorectal surgeons, when one thinks of low-lying rectal cancer, undoubtedly, they consider the follow-up question: "How far from the sphincter?". The above statement goes to show just how important sphincter-preserving techniques in rectal cancer surgery have become. However, dealing with cancerous growth is often a daunting task, and one that fails to conform with the surgeon's expectations. Thus, while we utilize newer approaches for sphincter preservation, be it laparoscopic or robotic low anterior resection (LAS), recommending chemoradiation treatment to achieve sphincter preservation and seeking modern staplers that will allow for the most marginal anastomosis, there are a number of rectal cancer patients who are, unfortunately, not candidates for LAS. These patients, usually undergo total colonic and rectal excision, a procedure known as abdominoperineal resection (APR), which obliterates the natural anal orifice and results in the construction of a permanent abdominal ostomy.

It is evident that the quality of life (QoL) of such patients is greatly compromised when compared to their healthy control counterparts [2, 3]. In particular, ostomy creation seems to be related to diminished body image feelings among patients as well as adding further financial concerns for them, both of these closely related to the presence of an ostomy bag [4]. A comparison of APR with LAS patients further revealed that not only do the APR patients suffer the same anxiety and QoL reduction due to rectal cancer, but the treatment-specific subgroup also reported lower QoL scores specifically for body image and sexual problems, and was also more

prone to constipation than patients in the LAS group [5]. A paired analysis between patients undergoing LAS and APR revealed that APR patients had significantly lower physical functioning scores and future perspective scores, as well as worse sexual participation and enjoyment scores [6]. A recent multicentre study also showcased worse long-term QoL scores, especially when sexual and urinary functionality were assessed [7]. Such results still disagree with other studies. However, none of them are match controlled. Nevertheless, while it is evident that a trend towards worse QoL in APR patients exists, more trials utilizing larger study populations are required to confirm these results [8, 9].

As described in the review article, one possible solution to the diminishing of QoL through permanent ostomy creation is to attempt the construction of a neo-sphincter after APR. This is achieved by preparing a bowel segment as one would for permanent ostomy creation, only this time it is reinforced with a muscular layer (usually a short bowel-derived muscular layer, or gracilis graft) that acts as a new sphincter in the place of the resected one [10]. Adding to this process the placement of the ostomy through the natural anal orifice, a functional perineal colostomy can be constructed. There have been a few studies assessing the technique's potential, centred around patient satisfaction and continence. Almost every report describes patient satisfaction rates beyond 80% [11–17]. In addition, these patient series indicate that patients were quick to adapt to their newly formed perineal colostomy and its care, and even though most patients required colonic irrigation, they were able to achieve regular bowel function through planning and controlled diet [14, 15, 17–19].

In other words, the perineal colostomy method seems to allow for a great number of patients to not alter their behaviour and achieve a level of bowel control that in many instances matches their preoperative status.

The patient satisfaction is evident in a report by Souadka *et al.*, a surgical team in Morocco, who published several works on perineal colostomy. In their cohort of 146 patients, only one reported dissatisfaction, and none of the enrolled patients stated that they would prefer a standard abdominal colostomy, even when the conversion was offered [14]. Reports like this also address another big parameter for QoL estimation, which is the social, economic, and religious standpoints of the patients. In particular, ostomy creation has been associated with severe social isolation and anxiety in Muslim populations, with patients reporting feelings of "uncleanliness" that stop them from attending religious events [20, 21]. It seems that restoration of the natural anal orifice and management of bowel movements from there instead of an ostomy bag offers a sense of normality in these patients [4, 6, 22, 23]. Postoperative ostomy complications are well recorded and studied from a physiological point of view, but what about the economic burden they ensue on patients? It has been estimated that total healthcare costs in a 120-day period are approximately \$80,000 higher for patients with ostomy-related complications than for their uncomplicated counterparts [24]. A study by Kirzin *et al.* compared APR patients having standard abdominal colostomy with APR patients who underwent perineal colostomy construction. They were able to demonstrate clear advantages regarding postoperative perineal complications, surgical wound healing time, as well as a clear advantage in patients who underwent radiotherapy (a subgroup that is more prone to ostomy-related complications postoperatively [25]. In addition, the perineal colostomy maintenance requires only water-soluble enemas, with some studies using plain water instead, without the need for lengthy training or complex application instructions [11, 14, 26, 27]. As such, one could clearly hypothesize that perineal colostomy in lieu of standard abdominal ostomies could stand to benefit patients even from an economical and cost-effective standpoint, and would be an almost ideal solution for populations with no immediate access to advanced healthcare institutions, in impoverished parts of the world, and one that would be in line with their cultural and religious beliefs.

Of course, no surgical technique comes without its criticism and its negative side. Perhaps the most obvious point is that, despite achieving a degree of continence in most patients, this technique does not fully reconstitute the anal sphincter, and there will be some

soiling or gas incontinence [27]. However, such instances in the published literature concern the minority of patients in each surgical series. The need for daily or twice-daily irrigation and enema self-administration is also something that patients are a bit wary of, according to reports, but the vast majority of them (should they adhere to instructions) will manage to schedule their bowel movements satisfyingly [11, 17, 28, 29]. Reports of serious complications such as perineal sepsis, wound dehiscence, and bleeding are also found in the literature; however, they concern older, smaller cohorts and can be attributed to lack of proper surgical instruments or the technique itself being less evolved [26, 28, 30].

In conclusion, perineal colostomy seems to be a promising reconstruction technique that has evolved over the years. Literature suggests clear advantages over standard abdominal ostomy, which stretch well beyond surgical outcomes by providing a solution to eradicate discrepancies in medical care and make the ostomy application more favourable for patients' specific cultural and economic backgrounds. Although favourable results already exist in the current literature, they have to be tested on a larger scale via multicentric randomized trials in order for this technique to be routinely implemented in surgical practice.

Conflict of interest

The authors declare no conflict of interest.

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