

(Babcock or Soave Baulieux) Procedure for Coloanal Anastomosis: 03 Cases

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DOI: [10.36347/sjmcr.2024.v12i05.025](https://doi.org/10.36347/sjmcr.2024.v12i05.025)

| Received: 04.04.2024 | Accepted: 11.05.2024 | Published: 14.05.2024

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Abstract

Original Research Article

The Soave Baulieux procedure is a surgical technique for performing a coloanal anastomosis in cases of pathological colorectal conditions. A coloanal anastomosis is performed through a sleeve of rectal muscularis after a two-stage mucosectomy. In the first stage, the colonic tube is exteriorised through the anal canal, and a few days later a direct coloanal anastomosis is performed in the second stage. This is a salvage operation and its results are not well documented in the literature. This is a study of three (03) consecutive patients, hospitalised and operated on using the Babcock or Soave Baulieux technique at the Department of Visceral Surgery A of the Hassan II University Hospital in Fez, Morocco. The objectives of this study were to evaluate the indications, operative results, postoperative morbidity and mortality, and long-term functional results. Our study concerns three (03) patients with colorectal cancer. In 66.7% of cases, the decision to perform the Soave Baulieux technique was taken preoperatively to avoid other complications related to the low colorectal anastomosis. After the operation, 66.7% of patients had a simple post-operative course and only one patient (33.3%) was re-operated after a complication (necrosis of the anastomosis from the distal segment to the anus). Only one patient had a permanent stoma. Quality of life and functional results were satisfactory in 66.7% of our patients.

Keywords: Soave Baulieux, coloanal anastomosis, Visceral Surgery, stoma.

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INTRODUCTION

The (Babcock or Soave Baulieux) procedure is a surgical technique consisting of lowering the colon via the anus through the rectum left in place after first dissecting and resecting its mucosa. This procedure was first described in 1964 in the context of Hirschsprung's disease [1]. It has also been described in colorectal surgery for pelvises that are difficult to dissect or at risk of post-operative complications [2].

The (Babcock or Soave Baulieux) procedure is a delayed colo-anal anastomosis. The colonic tube is temporarily externalized through the anus, and in a second operation between 5 and 10 days after this first operation, a direct colo-anal anastomosis is performed by sectioning the protruding part of the colon. This enables the devascularised area to be delimited and anastomosis to be performed under good vascular conditions. This technique also favours adhesions between the lowered colon and the anus, thereby considerably reducing the number of anastomotic fistulas [3]. The (Babcock or

Soave Baulieux) procedure therefore consists of a delayed colo-anal anastomosis. In the first stage, the colon is lowered through a rectal sleeve and in the second stage, a few days later, a direct colo-anal anastomosis is performed.

MATERIALS AND METHODS

This was a study of three (03) consecutive patients, hospitalised and operated on using the (Babcock or Soave Baulieux) technique at the Department of Visceral Surgery A of the Hassan II University Hospital in Fez, Morocco.

The objectives of this study were to evaluate the indications, operative results, postoperative morbidity and mortality, and long-term functional results.

Evaluation Criteria

The evaluation criteria were postoperative morbidity and mortality according to Clavien-Dindo [4], the time between the first and second stage of surgery,

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risk factors for failure of conventional coloanal or colorectal anastomosis, functional results and the rate of definitive stomas.

Surgical Technique

All patients underwent preoperative colonic preparation and were installed in double shifts. The first stage was abdominal by laparotomy or laparoscopy, depending on the patient's pathology. Systematic exploration was carried out to look for metastases and peritoneal carcinosis.

When laparoscopy (**Figure 1**) was used, the technique was from inside to outside. In laparotomy it

was the opposite, from the outside in. In both cases, a detachment of the left colonic angle, a colo-epiploic detachment and a left colo-parietal detachment were systematically performed.

When the latter was clearly identified, the rectum was dissected, stapled and sectioned above the plane of the levators. However, especially in narrow pelvises with significant inflammatory changes, it was not easy to differentiate between all the anatomical structures. After mobilisation of the colon, a length of at least two centimetres below the pubic symphysis was required to ensure that the colon could be externalised through the anus without difficulty.

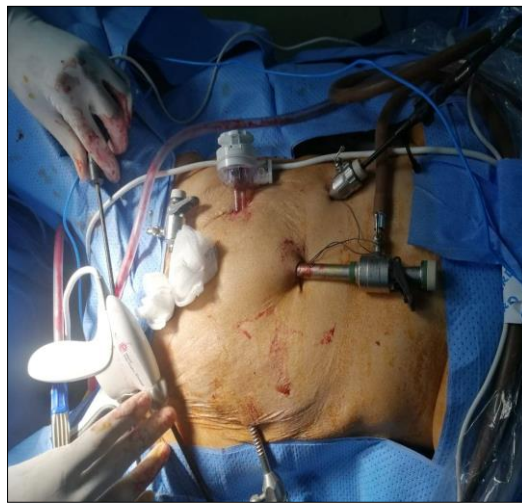


Figure 1: Presence of laparoscopic trocars. Operating theatre, Hassan II University Hospital, Fez

Progressive dilatation of the rectum was performed, followed by perineal access after installation of the Lone-star® for exposure of the anal canal. Sub-mucosal infiltration with adrenaline serum was performed to lift the sub-mucosal layer and facilitate dissection.

A mucosectomy was then performed, followed by colonic section with removal of the tumour (**Figure 2**), allowing the colon to be lowered and externalised via the anus (**Figure 3**).



Figure 2: Colonic resection specimen with tumour removed. Operating theatre, Hassan II University Hospital, Fez

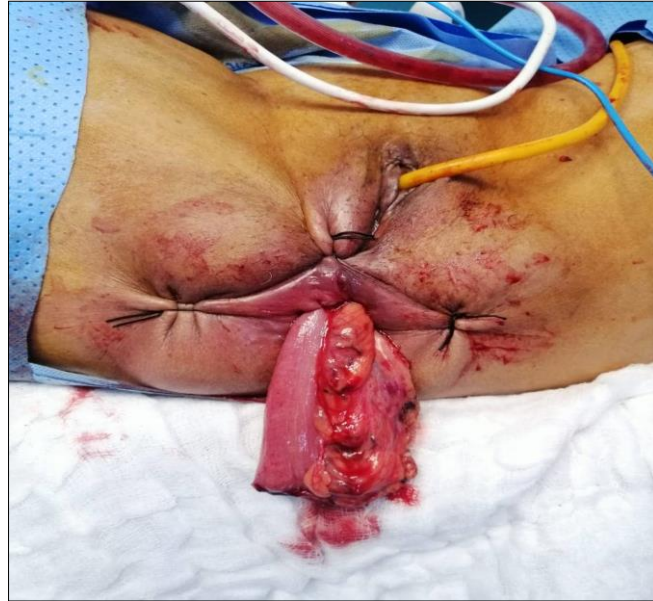


Figure 3: Colonic stump lowered through the anus after resection. Operating theatre, Hassan II University Hospital, Fez

This lowered colonic stump is wrapped in Vaseline-soaked compresses to keep it vital and moist until the next operation (**Figure 4**).



Figure 4: Colonic stump lowered through the anus wrapped in compresses soaked in petroleum jelly. Operating theatre, Hassan II University Hospital, Fez

In a second operation, between 5 and 10 days after the first operation, a direct end-to-end colo-anal anastomosis was performed using separate stitches of Vicryl 4/0.

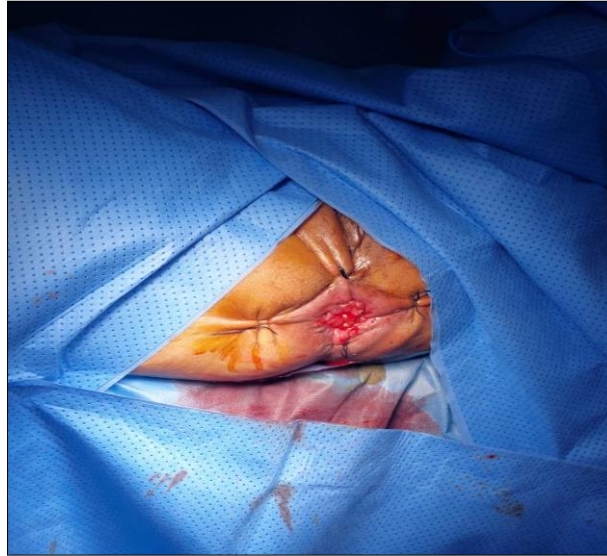


Figure 5: Resection of the colonic stump lowered through the anus after 5-day resection. Operating theatre, Hassan II University Hospital, Fez

RESULTS

Population

Our study concerns three (03) patients. Of these three patients, one was male (33.3%) and 02 were female (66.67%). The mean age of the patients was 68 years with extremes of 66 and 70 years. All our patients had colorectal cancer (one in the lower rectum, one in the middle rectum and one in the middle and upper rectum).

Previous Surgical and Medical Treatment

All our patients, i.e. 100% of cases, had previously received radiochemotherapy for rectal cancer.

Two (02) patients had benefited directly from the Babcock or Soave Baulieux technique at the time of their first operation (66.7%) and one had benefited from a previous resection + low colorectal anastomosis (33.3%).

Surgical Indication (Babcock or Soave Baulieux)

Two distinct groups could then be defined. The first group consisted of patients for whom the indication for (Babcock or Soave Baulieux) was decided preoperatively, given that some colo-anal anastomoses can become complicated. This concerned 02 patients, i.e. 66.7%. The second group consisted of a patient for whom the decision was taken in the operating theatre by a surgeon after the patient had become complicated following an anterior resection + colo-anal anastomosis (necrosis of the anastomosis from the distal segment to the anus) who benefited from this technique.

Four days later, the lowered stump necrosed again and was resected to make a definitive colostomy (**Figures 6; 7 and 8**).

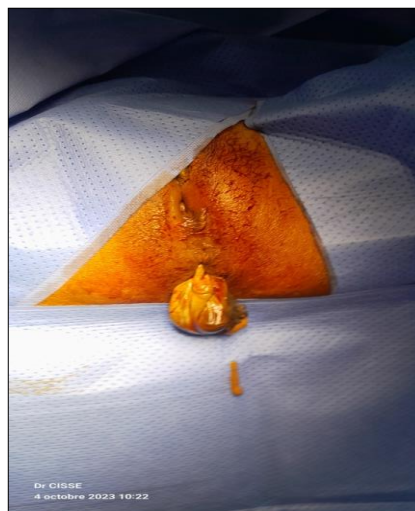


Figure 6: Necrosis of the lowered colonic stump



Figure 7: Resection of the colonic necrosis as far as the anus



Figure 8: Definitive colostomy after necrosis of the lowered colonic stump through the anus. Operating theatre, Hassan II University Hospital, Fez

First Stage Surgery: (Babcock or Soave Baulieux).

For the first stage, two (02) patients underwent laparoscopy (66.7%) and one patient underwent median laparotomy (33.3%).

Second Stage of the Operation: Direct Colo-Anal Anastomosis (Babcock or Soave Baulieux)

The second stage of the operation, consisting of direct colo-anal anastomosis, was carried out in an

average of 6 days, with extremes of 3 and 13 days. All the anastomoses were terminal colo-anal anastomoses; no reservoir was used. Only one patient underwent postoperative abdominal drainage after failure of the Babcock or Soave Baulieux procedure.

Early Postoperative Results

Two (02) of our patients, i.e. 66.7%, had a simple postoperative course.

In our study, we noted one postoperative complication: necrosis of the lowered colon with an anastomotic fistula, requiring resection of the necrosis and creation of a permanent colostomy.

DISCUSSION

Our study concerns three (03) consecutive patients, hospitalised and operated on using the Babcock or Soave Baulieux technique. The aim of this study was to evaluate the indications, operative results, postoperative morbidity and mortality, and long-term functional results.

In the case of complex rectovaginal, urethrorectal or rectovesical fistulas, the Babcock or Soave Baulieux procedure may be an alternative. We have used this surgical technique as first-line treatment in two of our patients, i.e. 66.7% of cases, with a 100% cure rate.

These results are in line with the literature on this indication [3]. The Soave Baulieux technique may be of interest for catch-up or "redux" surgery for complicated colorectal or coloanal anastomoses.

We had one patient in this indication who ended up with a definitive stoma.

The literature highlights the value of this technique for the management of peritonitis after Hartmann.

There are many studies in the literature concerning this procedure in children, particularly in Hirschsprung's disease, but studies in adults are less frequent and often involve small cohorts.

The results in children are excellent, with a success rate of over 90% [5]. Surgery in children is less risky because the womb is untouched and the wound heals better than in adults, but the procedure of choice is still the Duhamel.

In our study, there were no cases of Hirschsprung's disease or congenital malformations, and the Soave Baulieux technique was only performed in an adult population for colorectal pathology.

Several previous studies have already demonstrated the efficacy of this procedure in adults [5, 6].

It should be noted that these are all small retrospective studies. Functional results after this

procedure are relatively good. The literature suggests that it is important to select patients for this procedure and to perform it only in expert centres. In the literature, up to 50% of post-operative morbidity is associated with this procedure for anastomotic repair. In patients who have undergone preoperative radiotherapy, more than half of patients have an impaired quality of life [7].

CONCLUSION

The Soave Baulieux technique allows recovery from pathological colorectal conditions in the majority of cases. The functional results of this study showed the absence of incontinence in 66.7% of cases, with a preserved quality of life for the majority of patients. It is essential to communicate with the patient preoperatively about the Soave Baulieux technique and what it involves. We recommend that it be performed in expert centres and on selected patients.

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