Day-surgery stapled prolassectomy: a "ten minutes job"

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INTRODUCTION: *Accordingly with the new physiopathologic insights of the 70s and 80s, hemorrhoidal disease appears to originate not much from venous hyperplasia but rather from a progressive deterioration of connective and support tissues with subsequent venous and mucosal prolapse. In the late 90s a new surgical technique for a more physiological treatment of hemorrhoids was introduced: stapled prolassectomy.*
MATERIALS AND METHODS: *Between October 2017 and June 2018 we performed 50 hemorrhoidal stapled prolassectomies under local-regional anesthesia. All patients were classified as ASA I and were aged between 18 and 65 years. Patients were administered Atropine 1 mg and Flunitrazepam 0,7 mg orally 30 minutes prior to the intervention. A topical anesthetic preparation of Lidocaine and Procaine was also applied. A local anesthesia of the anal and perineal region was performed by the surgeon in the presence of an anesthesiologist.*
RESULTS: *Intraoperative pain control was found to be complete and optimal for the majority of patients (92%). Six of the patients (8%) reported mild pain during the stapling phase but did not require further intervention. A conversion to general anesthesia was never required. Forty-four of the patients (88%) were discharged on the same day of the operation. In four cases (9%) discharge was postponed and patients were kept overnight because of early postoperative complications.*
DISCUSSION AND CONCLUSION: *Over 20 years after its introduction, stapled prolassectomy has become the allows to gold standard for treating hemorrhoids. This procedure allows for an effective and appropriate treatment of the condition. It preserve the physiology of the anal channel and to reconstruct the correct topographic relationship between anal derma, anal-rectal mucosa, hemorrhoidal plexus and sphincter apparatus . The absence of surgical wounds in the perineal region allows for a reduced stimulation of pain receptors, leading to a less painful post-operatory course and to a reduced risk of long term complications such as stenotizing scarring and soiling .The use of a mechanic stapler leads to higher costs, but they are in part balanced by the possibility of a faster recovery of patients and of an earlier resumption of work activities. The possibility to perform the operation in day surgery may allow for a global reduction health care expenses leaving more resources available for more complex cases.*

KEY WORDS: Hemorrhoids, Recto-Anal prolapse, Posterior perineal block

Introduction

Accordingly with the new physiopathologic insights of the 70s and 80s, hemorrhoidal disease appears to originate not much from venous hyperplasia but rather from a progressive deterioration of connective and support tissues with subsequent venous and mucosal prolapse (1). In most cases, hemorrhoidal disease presents with the exteriorization of hemorrhoids through the anus. In some cases, however, there are no evident external manifestations and the complaint presents itself through indirect signs such as anal dermatitis and soiling (2). In the late 90s a new surgical technique for a more physiological treatment of hemorrhoids was introduced: stapled prolassectomy. In the present day, 20 years after its introduction, it represents the most common procedure for

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the treatment of this condition. The technique aims to achieve an "anopexy ", a sort of "lifting" of the anal channel mucosa with the reconstruction of the correct topographical relationships between anal derma, anal rectal mucosa, hemorrhoidal plexus and sphincter apparatus [1]. The dissection of the terminal branches of the superior hemorrhoid artery should reduce the risk of hemorrhage and later cause the atrophy of the external hemorrhoidal component. The absence of surgical wounds in the perianal region allows for a reduced stimulation of pain receptors leading to a less painful and swifter post operatory course with an earlier return to normal everyday activities and social interaction [1]. Because of these characteristics, this technique is considered ideal for the surgical treatment of hemorrhoidal disease in a day-surgery context [3] the greatest limitation being represented by the choice of anesthetic technique. Both general and spinal anesthesia, in fact, are ill adapted to a same-day discharge policy [4]. In this study, we evaluate the application of a local-regional anesthetic technique, the perineal posterior block (PPB) [5], in patients undergoing a day surgery stapled prolassectomy for hemorrhoidal disease.

Material and Methods

Between October 2017 and June 2018 we performed 50 hemorrhoidal stapled prolassectomies under local-regional anesthesia. Three of the patients suffered from symptomatic second degree hemorrhoids while the rest suffered from third degree hemorrhoids. All patients were classified as ASA I and were aged between 18 and 65 years (Tab. I). The PPB anesthetic technique was selected for all cases [5]. Patients were administered Atropine 1 mg and Flunitrazepam 0,7 mg orally 30 minutes prior to the intervention. A topical anesthetic preparation of Lidocaine and Procaine was also applied. A local anesthesia of the anal and perineal region was performed by the surgeon in the presence of an anesthesiologist. We employed a mixture of 25 ml of Ropivacaine at a 10 mg/ml concentration and saline solution. We performed a deep infiltration of both ischioanal fossae and of the posterior rectal space to attain the block of the inferior hemorrhoidal nerve, of the posterior branch of the internal pudendal nerve and of the anococcygeal nerve. A superficial infiltration of the intersphincteric space at the for cardinal points was also performed, to reduce both tenderness in the perineal region and reflex pain in the hypo gastric region that can derive from the stimulation of autonomic parasympathetic visceral sensitive fibers. The surgical procedure can then be performed only 5 minutes after anesthetic administration. There was always active cooperation from the part of the anesthesiologist. He first administered an intravenous shot of Remifentanil 1 μg/Kg over 30 seconds at the moment of the infiltration of the local anesthetic and later maintained a constant supplementation of the same drug at a 0.1-0.2 μg/kg/minute rate. Infusion rate was further increased at 0,4 μg/kg/minute rate 3 minutes prior to stapling and later gradually suspended.

TABLE I - *Characteristics of patients*

Characteristic	Value
Sex	X M, Y F
Mean age	58 [18-65]
Mean ASA score	1
Hemorrhoidal degree	
1st degree	0
2nd degree	3
3rd degree	47

Results

After the anesthetic procedure was performed, the average operation time was of 10 minutes. Intraoperative pain control was found to be complete and optimal for the majority of patients (46 patients, corresponding to 92% of our study population). Six of the patients (8%) reported mild pain during the stapling phase but did not require further intervention. A conversion to general anesthesia was never required (Table II). For most patients (21 cases, corresponding to 54% of the study population), a complete pain control lasted for 10 hours, in 12 cases (24%) it lasted over 15 hours. For 17 patients (22%), instead, pain appeared 5 hours after surgery (Table II). Forty-four of the patients (88%) were dis-

TABLE II - *Intraoperative and postoperative analgesia*

Analgesia	N° of patients (%)
Intraoperative	
No pain	46 (92)
Mild pain	4 (8)
Conversion to general anesthesia	0 (0)
Postoperative	
5 hours	17 (22)
10 hours	21 (54)
15 hours	12 (24)

TABLE III - *Postoperative discharge and complications*

Postoperative discharge and complications	N° of patients (%)
Discharge in surgery day	44 (88)
Urinary retention	3 (6)
Hemorrhage	1 (2)

charged on the same day of the operation, in the late afternoon, after the first micturition and after having checked for the absence of bleeding. In four cases (9%) discharge was postponed and patients were kept overnight because of early postoperative complications. Of these patients, 1 (0.5%) suffered from mild hemorrhage that was treated with the positioning of an anal tampon, the further 3 (6%) suffered from urinary retention which required catheterization (Table III).

Discussion

Over 20 years after its introduction, stapled prolassectomy has become the gold standard for treating hemorrhoids. In the light of the integral theory of continence, which sees rectal prolapse as the cause of hemorrhoidal disease, this kind of procedure allows for an effective and appropriate treatment of the condition. It allows to preserve the physiology of the anal channel and to reconstruct the correct topographic relationship between anal derma, anal-rectal mucosa, hemorrhoidal plexus and sphincter apparatus [1]. The absence of surgical wounds in the perineal region allows for a reduced stimulation of pain receptors, leading to a less painful post-operatory course and to a reduced risk of long term complications such as stenotizing scarring and soiling [6-9]. The resection of the prolapsing mucosa with the simultaneous preservation of the hemorrhoidal cushions allows for a better preservation of a physiological evacuation dynamic and of continence. Postoperative complication includes rectal bleeding, hematoma, acute anal pain, chronic proctalgia, rectovaginal fistula, total rectal obliteration and necrosis, rectal pocket, rectal wall hematoma, perforation with retropneumoperitoneum, pneumomediastinum and pelvic sepsis often requiring a diverting stoma, tenesmus and fecal urgency, fecal incontinence, stenosis with a reintervention rates around 6% [10-13]. The surgical treatment for hemorrhoids, that for any years caused fear among patients, is nowadays more readily and easily accepted. This is also because of the possibility to perform it an a day-hospital regimen [14]. The major contraindication against performing this kind of procedures as day surgery remains the choice of the anesthetic technique. Both spinal and general anesthesia, in fact, are ill-adapted to a same-day discharge policy [4]. The choice of a local-regional anesthetic technique practiced by the surgeon himself, the Perineal Posterior Block [5], allowed us to perform the operation safely, to maintain a good pain control and to discharge most patients on the same day of the operation.

In our experience, recommending a daily assumption of Psyllium [15] at home after discharge helps preserve a regular and valid evacuation.

The use of a mechanic stapler leads to higher costs, but they are in part balanced by the possibility of a faster recovery of patients and of an earlier resumption of work activities. The possibility to perform the operation in day surgery may allow for a global reduction health care expenses leaving more resources available for more complex cases. Anyway, medical progress cannot and must not be reduced to mere economical considerations. Thinking back, in the 70s and 80s a great dilemma existed about the real advantages and about the costs of the use of mechanical staplers instead than manual ones, with the medical community debating if their employ should be generalized or reserved to specific cases. Nowadays no one would think to renounce to these devices in certain fields and in certain kinds of surgery, regardless of the expenses. In a similar fashion, the reserves against the employ of staplers in hemorrhoid surgery, which for years retained an infamous reputation among patients because of its painful post-operatory course, should fall in front of the possibility of a safer and more effective procedure and of the prospective of an earlier resumption of work activities and of a better quality of life.

Conclusions

If our data were confirmed, we could affirm that the combination of PPB with the surgical technique of stapled hemorrhoidopexy may allow for a safe and effective treatment of hemorrhoidal disease with discharge within a few hours from surgery. We must, however, stress the fact that a full therapeutic success depends on a careful selections of patients more than on general indications.

Riassunto

Introduzione: In accordo con le nuove scoperte fisiopatologiche degli anni ’70 e ’80, la malattia emorroidaria sembra non dipendere dall’iperplasia venosa, ma piuttosto da un progressivo deterioramento dei tessuti connettivi e di supporto con conseguente prolasso venoso e mucoso. Alla fine degli anni ’90 fu introdotta una nuova tecnica chirurgica per un trattamento più fisiologico delle emorroidi: la mucoprolassectomia con stapler.

Materiali e Metodi: Tra ottobre 2017 e giugno 2018 abbiamo eseguito 50 mucoprolassectomie per patologia emorroidaria in anestesia loco-regionale. Tutti i pazienti sono stati classificati come ASA I con un’età compresa tra 18 e 65 anni. Ai pazienti è stato somministrato Atropina 1 mg e Flunitrazepam 0,7 mg per via orale 30 minuti prima dell’intervento. È stata anche applicata una preparazione topica anestetica di Lidocaina e Procaina. Un’anestesia locale della regione anale e perineale è stata eseguita dal chirurgo con assistenza anestesiologica.

Risultati: Il controllo del dolore intraoperatorio è risultato completo e ottimale nel 92% dei pazienti. Sei pazienti (8%) hanno riportato un lieve dolore durante

la fase di resezione. Una conversione in anestesia generale non è mai stata necessaria. Quarantaquattro pazienti (88%) sono stati dimessi lo stesso giorno dell'operazione. In quattro casi (9%) la dimissione è stata posticipata a causa di complicazioni postoperatorie precoci.
DISCUSSIONE E CONCLUSIONE: A 20 anni dalla sua introduzione, la mucoprolassectomia con stapler è diventata il gold standard per il trattamento della patologia emorroidaria. Questa procedura permette di preservare la fisiologia del canale anale e di ricostruire la corretta relazione topografica tra derma anale, mucosa ano-rettale, plesso emorroidario e apparato sfinteriale. L'assenza di ferite chirurgiche nella regione perineale consente una ridotta stimolazione dei recettori del dolore, portando ad un decorso post-operatorio meno doloroso e ad un rischio ridotto di complicazioni a lungo termine. L'uso di una stapler comporta costi più elevati ma bilanciati dalla possibilità di un più rapido recupero e una più rapida ripresa delle attività lavorative. La possibilità di eseguire l'operazione in day surgery consente una riduzione globale delle spese sanitarie lasciando più risorse per casi più complessi

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