

Hemoroidektomide Milligan Morgan ile Ferguson Tekniklerinin Karşılaştırılması

A Comparison Between Milligan-Morgan and Ferguson Procedures for Hemorrhoidectomy

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ÖZ

GİRİŞ ve AMAÇ: Hemoroidal hastalık, literatürde tedavisinin her zaman tartışıldığı yaygın görülen patolojik bir durumdur. Cerrahi müdahaleler üçüncü veya dördüncü derece hemoroid için uygulanabilir. Bu çalışmada amaç, açık ve kapalı tekniklerle hemoroid cerrahi onarımı sonuçlarını postoperatif komplikasyon oranı ve ağrı süresi yönünden karşılaştırmaktır.

YÖNTEM ve GEREÇLER: Çalışmaya, Mart 2012-Temmuz 2016 tarihleri arasında açık veya kapalı teknik ile ameliyat edilen 100 hasta dahil edildi. Demografik özellikler, klinik veriler, cerrahi girişimler, ameliyat bulguları, postoperatif komplikasyonlar ve postoperatif ağrı süreleri retrospektif olarak incelendi.

BULGULAR: Ortalama yaş açık cerrahi yapılan grupta 43, kapalı cerrahi yapılan grupta 45.5 idi. Açık cerrahi yapılan gruptaki ortalama ameliyat süresi kapalı gruba göre anlamlı derecede kısaydı. Hastanede kalış süresi, kapalı grupta açık gruba göre daha düşüktü, ancak iki grup arasında istatistiksel olarak anlamlı fark yoktu ($p = 0.06$). Takipte ağrı süresi ve analjezik gereksinimi süresi kapalı grupta daha azdı. Ortalama yara iyileşme süresi açık grupta, kapalı gruba göre daha uzun bulundu ($p < 0.001$). Postoperatif ikinci haftanın sonunda; hastanın ağrı şikayeti, kapalı grupta açık gruba göre daha iyi dindirilmişti ancak her iki grupta da şiddetli ağrının ortalama süresi benzerdi.

TARTIŞMA ve SONUÇ: Bu çalışmaya göre, üçüncü ve dördüncü derece hemoroidler için Ferguson hemoroidektomisinin cerrahi tedavide seçilmesi gereken prosedür olduğunu düşünüyoruz.

Anahtar Kelimeler: hemoroid, milligan-morgan hemoroidektomi, ferguson hemoroidektomi, cerrahi teknik

ABSTRACT

INTRODUCTION: Hemorrhoidal disease is a common pathologic condition that treatment's has always been a discussed subject in the literature. Surgical interventions can be applied for third or four degree hemorrhoids. This study was designed to evaluate and compare the outcome of surgical repair of hemorrhoids by the open versus closed technique to assess the rate of postoperative complications and duration of pain.

METHODS: A total of 100 patients who underwent operation by open or closed technique between March 2012 and July 2016 were included in this study. Demographic, clinical data, surgical procedures, operative findings, postoperative complications and duration of postoperative pain were retrospectively analyzed.

RESULTS: The mean age was 43 in the open group and 45.5 in the closed group. The mean operating time in open group was significantly shorter than in the closed group. Hospital stay period was also lesser in closed group than open group but no statistically significant difference was found between two groups ($p=0.06$). On follow up, duration of pain and analgesic requirement period was less in closed group. Mean wound healing time was longer in open group than closed group ($p<0.001$). At the end of the postoperative second week; patient's complaint of pain was better ceased in closed group than open group but the mean duration of severe pain was similar in both two groups.

DISCUSSION and CONCLUSION: According to this study we believe that Ferguson's hemorrhoidectomy is the surgical procedure of choice for the third and fourth degree hemorrhoids.

Keywords: hemorrhoid, milligan-morgan hemorrhoidectomy, ferguson hemorrhoidectomy, surgical technique.

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INTRODUCTION

Hemorrhoidal plexus plays a significant physiologic role in protecting the anal sphincter muscles and augment closure of the anal canal during moments of increased abdominal pressure (1). Hemorrhoidal disease is a common pathologic condition that treatment's has always been a discussed subject in the literature (2). First and second degree hemorrhoids are usually treated conservatively. Surgical interventions should be applied for third or four degree hemorrhoids. The conventional open technique was described by Milligan and Morgan in 1937, and the closed technique was described by Ferguson in 1959 (3,4). Although closed hemorrhoidectomy is supposed to be less painful method and results in rapid wound healing (5,6), a disagreement is still there concerning these two techniques of management with regards to postoperative pain and complications(7-9).

This study is guided to compare two procedures which are Milligan-Morgan and Ferguson hemorrhoidectomy and evaluates the surgical procedure of choice for third and fourth degree hemorrhoids with regards to postoperative pain, complication ratio, wound healing and hospital stay.

METHODS

A total of 100 patients who underwent hemorrhoidectomy operation by open or closed technique between March 2012 and July 2016 were included in this study. Demographic, clinical data, surgical procedures, operative findings, postoperative complications, and postoperative pain duration were retrospectively analyzed. Data of the patients were obtained from a prospectively recorded database.

As our treatment approach, all patients were treated with antibiotics, laxatives and anal-gesics in postoperative period. All patients were allowed orally alimentation eight hours after surgery. Patients follow up for anal pain. Pain was evaluated by visual analoge scale in postoperative period and analgesics were given only if a patient was suffering from anal pain.

In postoperative period patients were routinely followed for urinary retention, hemorrhage and discharge time. Patients were discharged according to their anal pain and wound condition. The patients were called to the weekly outpatient clinic control during the first month.

Operative procedure

After induction of anesthesia, all of the procedures were performed in the lithotomy position. Firstly, digital rec-tal examination was done and anus was dilated than one of two surgical procedures was selected. In 50 cases, Ferguson's (closed) procedure was used and in 50 patients, Milligan Morgan's technique (open) was performed. The skin incision was made on the muco-cutaneous border and haemorrhoid was excised with diathermy. The base of pedicle was transfixed with 3/0 absorbable suture. In the other 50 cases Ferguson's (closed) procedure was performed, vascular pedicle was ligated with 2/0 absorbable suture. After ensure the homeostasis was provided, wound was closed with 3/0 absorbable suture.

Statistical Analysis

SPSS for Windows programmed was used to perform the data analysis, (version 16.0, Chicago, IL, USA). Fisher's exact test or Pearson Chi Square test was used to compare the categorical variables. Then Student t test or the Wilcoxon rank test was used for continuous variables. $P < 0.05$ was considered as significant.

RESULTS

In this study, both open and closed hemorrhoidectomy groups included 50 patients. The mean age was 43 in the open group and 45.5 in the closed group (Table 1). The most common preoperative complaint of patients in this study was rectal bleeding which was seen in 78% of cases, palpable mass per rectum in 52% and painful and forced defecation in 24% of patients.

Table 1. Preoperative characteristics of hemorrhoidectomy patients (n=100)			
	Group A (Open hemorrhoidectomy) N= 50	Group B (Closed hemorrhoidectomy) N= 50	P
Median age (years) (range)	43 (31-68)	45.5 (25-73)	0.21
Gender			
Male (n, %)	20 (40%)	17 (34%)	0.89
Female(n,%)	30 (60%)	33 (66%)	
Median duration of symptoms (years) (range)	7.70 (4-19)	7.05 (1-21)	0.99
Degree of hemorrhoids			
III. Degree (n, %)	20 (40%)	20 (40%)	
IV. Degree (n, %)	30 (60%)	30 (60%)	

The mean operating time in open hemorrhoidectomy group was significantly shorter (15.14 minutes) than in the closed hemorrhoidectomy group (21.96 minutes). The urinary retention was observed on the day of operation in 4 (4%) patients in open group, and in 5 (5%) patients in closed hemorrhoidectomy group, no statistical significance different was observed between two groups.

Wound infection was observed in 7 (14%) patients in the open technique group and 5 (10%) in the closed technique group and no statistical significance different was observed between two groups. Other complications like anal stenosis or anal incontinence was not seen in any of patients in both two groups. Hospital stay was also lesser in closed group than open group but no statistically significant difference was found between two groups. (p=0.06) (Table 2).

Table 2. Operative and postoperative data of the hemorrhoidectomy patients (n = 213)			
	Group A (Open hemorrhoidectomy) N=	Group B (Closed hemorrhoidectomy) N=	P
Mean Operating time (min), (\pm SD)	15.14 \pm 4,06	21.96 \pm 3.56	P<0,001
Median blood loss(ml), (range)	20 (10-65)	25 (20-55)	P<0,001
Mean Hospital stay(days), (\pm SD)	1.4 \pm 0.6	1.2 \pm 0.4	0.062
Mean duration of severe pain(days), (\pm SD)	6.73 \pm 1.6	6.66 \pm 1.7	0.79
Mean wound healing time (days), (\pm SD)	22.9 \pm 5.5	15.7 \pm 3.2	P<0,001

On follow up, duration of pain and analgesic requirement period was less in closed hemorrhoidectomy group (Table 3).

Table 3. Postoperative analgesic requirement periods of the patients			
	Group A (Open hemorrhoidectomy) n=	Group B (Closed hemorrhoidectomy) n=	P
During the first 24 hours (n, %)	50	50	P<0,001
At the end of the first week (n, %)	39	22	
At the end of the second week (n, %)	12	3	
At the end of the third week (n, %)	2	0	
At the end of the one month (n, %)	0	0	

Mean wound healing time was longer in open hemorrhoidectomy group than closed group ($p<0.001$). At the end of the postoperative second week; patient's complaint of pain was better ceased in closed hemorrhoidectomy group than open group but the mean duration of severe pain was similar in both two groups.

DISCUSSION

In this retrospective study, the clinical, laboratory, and ultrasound findings of 180 TOA patients were analyzed to determine their predictive value in terms of TOA treatment outcomes. Age, TOA size, pre-treatment leukocyte, neutrophil, and platelet counts, CRP level, NLR, and PLR were found to be risk factors for surgical treatment. The present study clearly showed that preoperative NLR value of 6 or higher and PLR value of 165 or higher were predictive of medical treatment failure with sensitivity and specificity values of 71.7% and 74.4% for NLR and 74.7% and 65.4% for specificity.

TOA is an advanced stage of acute PID and can cause long-term mortality and morbidity (22). The most common symptoms are abdominal pain and pelvic pain. It is often accompanied by fever and leukocytosis. TOA is diagnosed with a complete physical and pelvic examination followed by the necessary laboratory and imaging modalities. Early diagnosis and treatment is important to minimize disease-related morbidity and mortality (22).

Broad-spectrum antibiotic therapy is the first-line treatment unruptured TOA (6,8). Despite there being no recommended specific intravenous antibiotic regimen, broad-spectrum intravenous antibiotics followed by long-term oral antibiotics are effective for most pelvic abscesses (8). Although response to antibiotherapy is high in TOA, approximately 25% of patients require surgery or drainage (1).

Analyses of the sociodemographic risk factors for TOA medical treatment failure found in the literature report contradictory results. Some studies reported that advanced age, greater number of pregnancies, past pelvic surgery, menopausal status, and presence and duration of IUD use were risk factors (6,8,9,12). However, these did not emerge as significant risk factors in other studies (7,8). In

the present study, the only sociodemographic difference between the groups was that the surgical treatment group was significantly older than the medical treatment group.

Larger TOA size has been associated with increases in the number of complications, length of hospital stay, and need for surgical treatment or drainage (24-26). Reed et al. reported that surgical treatment was required by 60% of patients with a TOA greater than 10 cm in diameter, compared to 20% of patients with a TOA less than 5 cm in diameter (24). Consistent with these findings, another study showed that laparotomy was required in 72% of patients when the abscess diameter was larger than 10 cm, and 26% when it was less than 5 cm (25). Güngördük et al. determined that TOA diameter >6.5 cm predicted the need for surgical treatment with 77.6% sensitivity and 65% specificity (8). In our study, we also found the mean TOA diameter was 4.5 ± 1.8 cm in the medical treatment group and 6.5 ± 2.6 cm in TOA diameter in the surgical treatment group ($p<0.001$), consistent with the literature.

There are many laboratory tests that demonstrate inflammation and are used in the diagnosis, treatment, and follow-up of TOA. Leukocytosis and elevated CRP and ESR values are well-known laboratory parameters (27). Recently, NLR and PLR values have also been shown to be inexpensive, easily assessed, and widely used markers of inflammatory response (13). The acute inflammatory process and bacterial infection increase neutrophil production and inflammatory infiltration (28). Bone marrow progenitor cells are transformed into granulocytes by interleukin (IL)-3, IL-6, IL-11, and granulocyte colony stimulating factor. During the inflammatory process, neutrophils are the first cells to reach the tissue (29). As a result, there may be an increase in neutrophils and a relative decrease in lymphocytes in the peripheral circulation. This manifests as an elevated peripheral NLR ratio. This process is an important parameter in detecting a systemic inflammatory response. Because the life span of neutrophils is short, the NLR value falls when the infection regresses or resolves. This allows NLR value to be used for evaluation of treatment response.

Like NLR, PLR is also among the leukocyte indices recommended as an inflammatory marker (15). In addition to their role in hemostasis, platelets also play an active role in tissue repair, inflammation, and antimicrobial host defense. Megakaryopoiesis is inhibited in acute infection, but active megakaryopoiesis in chronic infection results in reactive thrombocytosis (30). In addition, recent studies have shown that NLR and PLR are convenient and reliable prognostic factors in diseases such as ovarian cancer, colorectal cancer, breast cancer, and non-small cell lung cancer (16,17). Yıldırım et al. compared 136 TOA patients with 176 healthy women and showed that NLR and PLR values were better predictors of TOA diagnosis (12). NLR had 95.2% sensitivity and 99.4% specificity, while PLR had 86.7% sensitivity and 92% specificity. The authors also showed that NLR and PLR remained high in TOA patients despite normal leukocyte counts.

In our study, the results of ROC analysis showed that an NLR of 6 and PLR of 165 had diagnostic value in predicting medical treatment failure in patients with TOA (71.7% sensitivity, 74.4% specificity for NLR; 74.7% sensitivity, 65.4% specificity for PLR). The main limitation of our study is the retrospective design.

In conclusion, we determined in this study that pre-treatment NLR and PLR values of TOA patients were highly predictive of the success of medical treatment. In the pre-treatment clinical management of patients diagnosed with TOA, we believe NLR and PLR may be inexpensive complementary laboratory parameters that can guide the choice of medical or surgical treatment and are also useful in predicting the success of medical treatment. However, these findings need to be supported by prospective studies determining the discriminatory properties of these tests.

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