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Conflict of interest

The authors declare that they have no conflicts of interest

Keywords:

chronic hemorrhoids, «HAL-RAR» method, traditional methods of hemorrhoidectomy

COMPARATIVE ANALYSIS OF THE RESULTS OF HEMORRHOIDECTOMY BY TRADITIONAL METHODS AND THE «HAL-RAR» METHOD

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Abstract

In this study, we present the results of a retrospective comparative analysis of the results of hemorrhoidectomies by traditional methods and the «HAL-RAR» method.

The purpose of the study. To conduct a retrospective comparative analysis of the results of traditional hemorrhoidectomies and «HAL-RAR» in patients treated in surgical departments of “A.N. Syzganov National Scientific Center for Surgery” JSC, Almaty, Kazakhstan.

Material and methods. In the period from June 2018 to April 2021, 108 patients were operated on as planned for chronic hemorrhoids at A.N. Syzganov National Scientific Center for Surgery, and all patients were divided into 2 main groups: those operated by traditional methods and the «HAL-RAR» method.

Results. The analysis data suggest that the «HAL-RAR» method has an advantage over traditional methods of hemorrhoidectomy.

Conclusion. Based on a comparative analysis of the indicators of patients of both groups, it can be concluded that the duration of surgery with the minimally invasive «HAL-RAR» method is 40.6 minutes, which is significantly longer than with traditional methods, amounting to 48.4 minutes.

Despite this, the duration of hospital stay after surgery by the «HAL-RAR» method is 2.6 days, which is much less than with traditional methods, in which the duration of hospital stay after surgery is 3.5 days. Local infiltration anesthesia during operations by the «HAL-RAR» method was performed by 77.7% of patients, when with traditional methods 25.9% of patients. This analysis shows that the «HAL-RAR» method has an advantage over traditional methods.

Геморроидэктомияның дәстүрлі әдістері және «HAL-RAR» әдісі нәтижелерін салыстырмалы талдау

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Аңдатпа

Бұл зерттеуде біз геморроидэктомия нәтижелерін дәстүрлі әдістермен және «Hal-RAR» әдісімен ретроспективті салыстырмалы талдау нәтижелерін береміз.

Зерттеу мақсаты. «А. Н. Сызғанов атындағы Ұлттық ғылыми хирургия орталығы» АҚ Алматы, Қазақстан, хирургиялық бөлімдерінде емделген науқастарда дәстүрлі геморроидэктомиялар мен «HAL-RAR» нәтижелеріне ретроспективті салыстырмалы талдау жүргізу.

Материал және әдістер. 2018 жылғы маусым мен 2021 жылғы сәуір аралығындағы кезеңде «А.Н. Сызғанов атындағы ҰҒХО» АҚ-да созылмалы геморройға байланысты 108 науқасқа жоспарлы түрде ота жасалды және барлық науқастар 2 негізгі топқа бөлінді: дәстүрлі әдістер және «Hal-RAR» әдісі арқылы операция жасалған науқастар.

Нәтижелер. Талдау деректері «Hal-RAR» әдісінің дәстүрлі геморроидэктомия әдістерінен артықшылығы бар деп болжайды.

Қорытынды. Екі топтың науқастарының көрсеткіштерін салыстырмалы талдау негізінде «HAL-RAR» минималды инвазивті әдісімен операцияның ұзақтығы 40,6 минутты құрайды, бұл 48,4 минутты құрайтын дәстүрлі әдістерге қарағанда едәуір көп.

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Түйін сөздер:

созылмалы геморрой, «HAL-RAR» әдісі, геморроидэктомияның дәстүрлі әдістері

Осыған қарамастан, «HAL-RAR» әдісімен операциядан кейін стационарда болу ұзақтығы - 2,6 күн, бұл операциядан кейін стационарда болу ұзақтығы - 3,5 күн болатын дәстүрлі әдістерге қарағанда әлдеқайда аз. «HAL-RAR» әдісімен операциялар кезінде жергілікті инфльтрациялық анестезия науқастардың 77,7%-ына, дәстүрлі әдістерде науқастардың 25,9%-ына жүргізілді. Бұл талдау «HAL-RAR» әдісінің дәстүрлі әдістерден артықшылығы бар екенін көрсетеді.

Сравнительный анализ результатов геморроидэктомии традиционными методами и методом «HAL-RAR»

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Аннотация

В данном исследовании мы приводим результаты ретроспективного сравнительного анализа результатов геморроидэктомии традиционными методами и методом «HAL-RAR».

Цель исследования. Провести ретроспективный сравнительный анализ результатов традиционных геморроидэктомий и «HAL-RAR» у пациентов, пролеченных в хирургических отделениях Национального научного центра хирургии имени А.Н. Сызганова, г. Алматы, Казахстан.

Материалы и методы. В период с июня 2018г. по апрель 2021г. в «ННЦХ им. А.Н. Сызганова» 108 пациентов прооперированы в плановом порядке по поводу хронического геморроя, и все пациенты были разделены на 2 основные группы: прооперированных традиционными методами и методом «HAL-RAR».

Результаты. Данные анализа позволяют предположить, метод «HAL-RAR» имеет преимущество над традиционными методами геморроидэктомии.

Выводы. На основании сравнительного анализа показателей пациентов обеих групп можно сделать вывод, что продолжительность операции при малоинвазивном методе «HAL-RAR» составляет 40,6 минуты, что значительно больше, чем при традиционных методах, составляющих 48,4 минуты.

Несмотря на это продолжительность пребывания в стационаре после операции методом «HAL-RAR» - 2,6 дня, что намного меньше, чем при традиционных методах, при которых продолжительность пребывания в стационаре после операции - 3,5 дня. Местная инфльтрационная анестезия при операциях методом «HAL-RAR» проводилась 77,7% пациентов, когда при традиционных методах 25,9% пациентов. Этот анализ показывает, что метод «HAL-RAR» имеет преимущество над традиционными методами.

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Ключевые слова:
хронический геморрой, метод
«HAL-RAR», традиционные методы
геморроидэктомии

Relevance

Hemorrhoids are a disease accompanied by a pathological increase in hemorrhoids. The leading factors in the development of hemorrhoidal disease are hemodynamic and muscular-dystrophic factors. [1,2].

Hemorrhoids are equally common in middle-aged and elderly men and women. The prevalence of hemorrhoids is approximately 120 cases per 1000 adults, which makes it the most common disease. Among proctological diseases, hemorrhoids account for from 34 to 41%.

Factors such as sedentary lifestyle, pregnancy and childbirth, prolonged constipation, heavy physical work associated with lifting weights, the habit of eating spicy and spicy food, diseases of the pelvic organs that cause compression of the diverting veins, as well as the absence of valves in the diverting veins of the rectal plexus predispose to the disease [4].

Hemorrhoids are classified according to their place of origin and the degree of prolapse. There are internal, external and complex hemorrhoids. Hemorrhoids are classified from the first to the fourth degree in ascending order of severity. Hemorrhoids of the first degree bleed, but do not fall out of the anal canal. Hemorrhoids of the second degree have a minimal or moderate character fall out, but spontaneously decrease.

Hemorrhoids of the third degree should be reduced manually after falling out. Hemorrhoids classified as fourth degree cannot be reduced even manually and can be infringed [5].

There are many methods of treating chronic hemorrhoids, and all methods can be divided into 2 main groups: traditional and minimally invasive methods. Among the traditional methods, classical hemorrhoidectomies can be distinguished according to Milligan – Morgan, Ferguson, Whitehead [6]. Minimally

invasive methods include the “HAL-RAR” method (Hemorrhoidal artery ligation-Recto Anal Repair) [7-10]. Advantages and disadvantages in choosing one or another method remains relevant today.

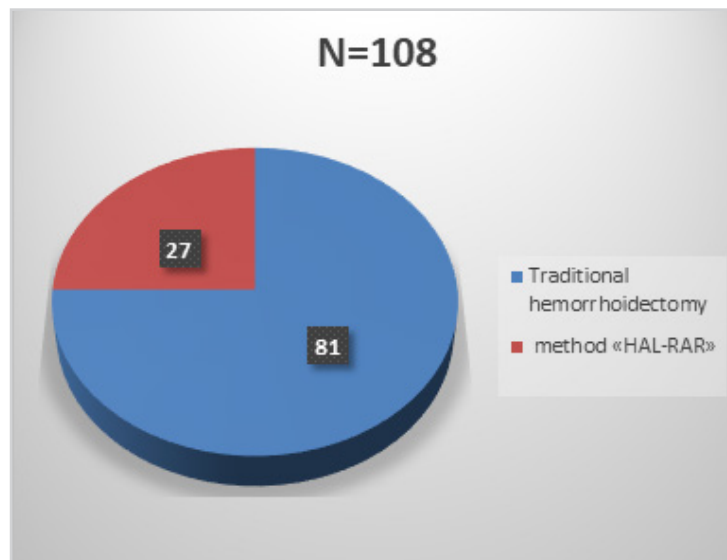
Purpose of the study: To conduct a retrospective comparative analysis of the results of traditional hemorrhoidectomies and «HAL-RAR» in patients treated in surgical departments of A.N. Syzganov National Scientific Center for Surgery, Almaty, Kazakhstan.

Material and methods

In the period from June 2018 to April 2021, 108 patients were operated on as planned for chronic hemorrhoids at the A.N. Syzganov National Scientific Center. As presented, all patients were divided into 2 main groups: group 1 - 81 patients operated with traditional methods of hemorrhoidectomy; group 2 - 27 patients operated with the “Hal-RAR” method. (Fig. 1.).

The average age of patients in group 1 is 44.6 years (Max = 81, min = 16); The average age of patients in group 2 is 44.4 years (Max = 78 min = 16).;

Figure 1.
The main groups of patients presented in the comparative analysis



Results

Conducting a comparative analysis of the data of 108 patients operated on as planned from June 2018 to April 2021 for chronic hemorrhoids at the A.N. Syzganov National Scientific Center «between

two groups in terms of: sex ratio; body mass index; postoperative complications; the presence of repeated cases (relapse); the presence of concomitant pathology; duration of the disease; no statistical difference was found in 2 groups (p = ns) (Table 1).

Table 1.
Patient indices without a statistically significant difference (p = ns)

	TRADITIONAL METHODS	«HAL-RAR» METHOD	DEVIATION
NUMBER OF PATIENTS	81	27	
AGE (years)	44,6 (16-81)	44,4 (16-78)	ns
GENDER M/F	47-34	16-11	ns
CONCOMITANT PATHOLOGY	26	10	ns
RECURRENCE	7	1	ns
BODY MASS INDEX	24,33 (19,92 - 44,96)	24,69 (18,34-35,55)	ns
COMPLICATION	1	2	ns
Patients taking conservative therapy	44	13	ns
Sedentary lifestyle	19	8	ns
Average duration of illness (months)	64,7(1-420)	84,3 (1-360)	ns

From the point of view of: the duration of the operation; the duration of hospital stay after surgery; the ratio of local infiltration and spinal anesthesia in patients in 2 groups - a statistical difference was revealed (p < 0.05) (Table 2).

	TRADITIONAL METHODS	«HAL-RAR» METHOD	DEVIATION
NUMBER OF PATIENTS	81	27	
Operation duration (min)	40,6 (5-210)	48,4 (30-110)	P < 0.05
Duration of stay after surgery (day)	3,53 (1-7)	2,63 (1-7)	P < 0.05
Patients with local anesthesia (%)	21 (25,9)	21 (77,7)	P < 0.05
Patients with spinal anesthesia (%)	60 (74,1)	6 (22,3)	P < 0.05

Table 2. Indicators of patients with the revealed statistical difference (p < 0.05)

Out of 81 patients of group 1, 21 patients underwent surgical treatment under local infiltration anesthesia, which is 25.9%, when out of 27 patients of group 2, local infiltration anesthesia was performed on 21 patients, which is 77.7% (p < 0.05) (Fig. 1).

Spinal anesthesia as a method of choice in 1-60 patients were treated in the 1st group, which is 74.1%, and 6 patients were treated in the 2nd group, which is 22.3% (p < 0.05) (Fig. 2)

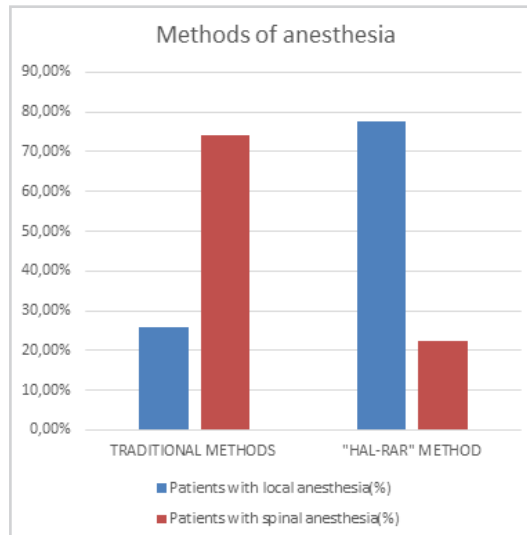


Figure 2. Comparative analysis of anesthesia selection indicators of 2 groups

The average duration of the operation (minutes) in group 1 patients is 40.6 minutes, the longest operation lasted 205 minutes, the smallest - 5 minutes. In group 2 patients, the average duration of the operation

was 48.4 minutes, the longest operation lasted 110 minutes, the smallest - 30 minutes, which indicates the presence of a statistical difference (p < 0.05) (Fig. 3).

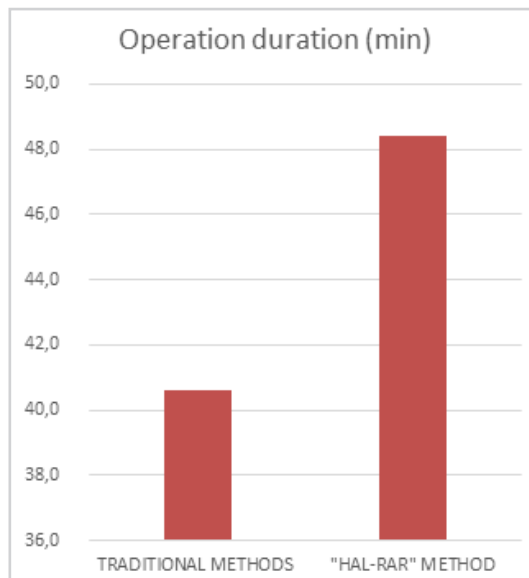
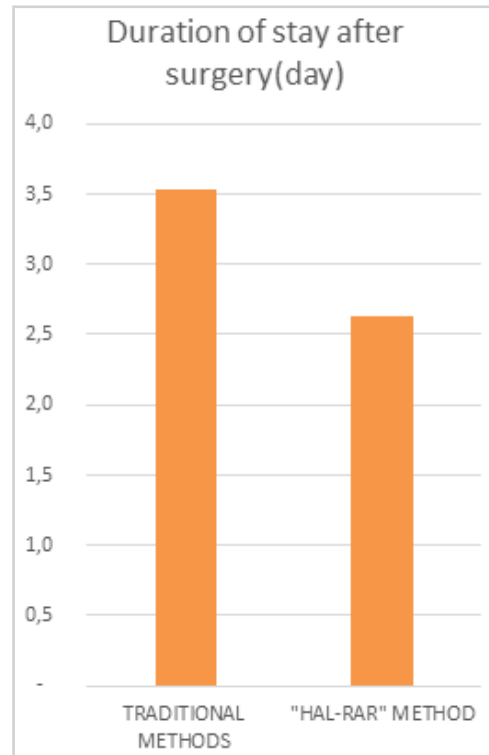


Figure 3. Comparative analysis of the indicator of the duration of the operation of 2 groups

As for the duration of the patient's stay in the hospital after surgery, group 1 patients had to stay in the hospital for an average of 3.5 days. Patients stayed in the hospital the longest after surgery for 7 days, the least for 1 day; Patients of the 2nd group needed to

stay in the hospital for an average of 2.6 days. The patients stayed in the hospital for the longest time after surgery for 7 days, the least for 1 day, which indicates the presence of a statistical difference ($p < 0.05$) (Fig. 4).

Figure 4.
Comparative analysis of the indicator of the duration of the patient's stay in the hospital after surgery for 2 groups



Conclusion

Based on a comparative analysis of the indicators of patients of both groups, it can be concluded that local infiltration anesthesia with traditional methods of hemorrhoidectomy was performed by 25.9% of patients, when 77.7% of patients were performed with the "HAL-RAR" method, which suggests it as the preferred method of anesthesia with this method (Fig.1). The duration of the operation with the

minimally invasive method "HAL-RAR" is longer, and is 40.6 minutes, when with traditional methods it is 48.4 minutes (Fig. 2). Despite this, the duration of hospital stay after surgery by the "HAL-RAR" method is 2.6 days, which is significantly less than with traditional methods, in which the duration of hospital stay after surgery is 3.5 days (Fig. 4).

This analysis shows that the "HAL-RAR" method has an advantage over traditional methods.

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