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Original Article

Efficacy in the use of local anesthesia in patients with surgical intervention for the resolution of anorectal pathologies

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ABSTRACT

A prospective, comparative, longitudinal study was conducted in the period from April 2016 to January 2017 in order to determine the efficacy of local anesthesia for the surgical resolution of anorectal pathologies in surgically operated patients who attended the General University Hospital "Luis Gomez Lopez. Thus, the population was composed of patients with anorectal pathologies of low complexity, with no previous anorectal surgical history (Hemorrhoids, anal fissure, perianal fistula, hypertrophic anal papilla, perianal condyloma acuminata), which were agreed to be included in this study, without contraindications for use of local anesthesia. A non-probabilistic, intentional sample was made up of 30 patients and the anesthetic protocol was administered following an anesthetic protocol of perianal local anesthesia using anesthetic mixture (70% of 2% lidocaine + 30% of 0.5% bupivacaine) quantifying pain tolerance during the intraoperative period on the first and fifth postoperative days, as well as any adverse effects. The results were expressed in absolute numbers and percentages; a good tolerance to pain was observed with some differences related to the sex of the individuals studied; no complications were observed.

Eficácia no uso de anestesia local em pacientes com intervenção cirúrgica para resolução de patologias anorretais

Palavras-chave:
Patologias anorretais
Anestesia local
Intervenção cirúrgica

RESUMO

Esse estudo prospectivo, comparativo e longitudinal foi realizado no período de abril de 2016 a janeiro de 2017, com o objetivo de determinar a eficácia da anestesia local para resolução cirúrgica de patologias anorretais em pacientes cirurgicamente operados que compareceram no Hospital Geral Universitário Luis Gomez Lopes. Essa população se compunha de

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pacientes com patologias anorretais de baixa complexidade, sem história prévia de cirurgia anorretal (hemorroidas, fissura anal, fístula perianal, papila anal hipertrófica, condiloma acuminado perianal), com prévia concordância em participar no presente estudo e sem contraindicações para o uso de anestesia local. Foi obtida uma amostra intencional e não probabilística de 30 pacientes, e o protocolo anestésico administrado consistiu em anestesia local perianal com uma mistura anestésica (70% de Lidocaína 2% + 30% de Bupivacaina 0,5%) com quantificação da tolerância à dor durante o período intraoperatório no primeiro e quinto dias do pós-operatório, além de qualquer possível efeito adverso. Os resultados foram expressos em números absolutos e em percentuais; foi observada boa tolerância à dor, com algumas diferenças relacionadas ao gênero dos pacientes estudados. Não foram observadas complicações.

Introduction

Anorectal pathologies represent a reason for frequent consultation in the general surgeon and coloproctologist practice, with a prevalence of 4–6% of the population. Predominant frequency is found in the group between 40 and 50 years of age; In addition, the diagnosis is mostly clinical, performed with a well-developed clinical history and a complete physical examination. In most cases a surgical solution will be needed at some point in its evolution.[1]

Surgical treatment of such entities has evolved considerably over the past two decades. Outpatient surgery and local anesthesia reduce operative time, complications associated with anesthesia, length of hospital stay, and operative stress of the patients being treated.[2]

Martín stated: "In 18 years of experience, 70% of anal canal surgeries can be performed basically in outpatients using local anesthesia or posterior perineal block with a low complication rate of 0.5%".[3]

Low spinal anesthesia has historically been considered the first option in the resolution of anorectal pathologies. However, side effects such as post-spinal headache, the occurrence of postoperative urinary retention, and the risk of spinal nerve injury (with consequent temporary or permanent affectation of the bladder function) have led to the search for other techniques.[2]

Local anesthetic block has been one of the alternatives considered. It is necessary to emphasize the infrequent use of this technique, due to the fact that in our daily practice the regional anesthetic block is exclusively reserved for the interventions of minor importance, as is the resection of an anal hematoma, plicomas or hypertrophic papillae or for performing internal sphincterotomies.

Although there are studies on the use of local anesthesia for the surgical resolution of anorectal pathologies, there is no established protocol for the use of the same in hospital centers of the locality.[4–9] For this reason, a prospective, descriptive and longitudinal study was conducted, which allowed us to determine the efficacy of the use of local anesthesia in surgically operated patients for the resolution of anorectal pathologies in the General University Hospital Dr. Luis Gomez Lopez in the city of Barquisimeto, Venezuela.

Materials and methods

For the development of the present study, a prospective, descriptive and longitudinal research was carried out.

In this regard, the population was made up of 30 patients with diagnosis of anorectal pathologies with indication of surgical resolution at the General Hospital Dr. Luis Gomez Lopez de Barquisimeto, Lara State, Venezuela, in the period from April 2016 to January/2017, which met the following criteria:

Inclusion criteria

- Patients of both sexes with any anorectal pathology: hemorrhoids, anal fissure, perianal fistula, hypertrophic anal papilla, perianal condyloma acuminata.
- Candidates for elective surgery.
- Patients who give signed written consent.
- Patients without contraindications for use of local or spinal anesthesia.

Exclusion criteria

- Patients with contraindications for the use of anesthetics.
- Patients who do not provide signed written consent.

The anesthetic protocol used is detailed as follows: A mixture of 2% lidocaine and 0.50% bupivacaine in a proportion of 70–30% is used. The perianal skin is infiltrated with 10cc of said solution. Deep injection is performed by 4 tridents located at hours 3, 6, 9 and 12. Infiltration begins at hour 6, injecting 10cc in depth at this time.[10]

This procedure continues with 5cc, in the direction of hours 5 and 7, thus completing the first trident. The needle is withdrawn and hour 3 is infiltrated by injecting 5cc in depth at the aforementioned hour and 5cc in the direction of hours 4 and 2 to complete the second trident. Then, the needle is withdrawn and the same procedure is applied at hour 9 and finally 12.[10]

The total used is 75cc of the anesthetic solution. All infiltrations, except that of the perianal skin, are performed under the guidance of the index finger of the left hand placed inside the rectum. The infiltration is done by planes. The blockade of the pudendal nerves is not specifically sought.[10]

A data collection form was used to record data from the interrogation and observation of the patient undergoing surgery, which consists of three parts: the first part corresponds to personal identification data that include first and last names, history number, age, sex, clinical diagnosis.

The second part refers to the study group according to the drugs administered, physical condition (ASA) and associated anorectal pathology and the third part relates to the evaluation of pain: duration and intensity through the visual analog scale (VAS) and adverse effects, if any.

When the results were obtained a statistical analysis was carried out containing a descriptive part expressed by means of the summary or relative frequency (percentages), which allowed the elaboration of the corresponding tables and graphs.

Results

The distribution according to sex was the following: 10 men corresponding to 33.33% of the sample and 20 women representing 66.67% of the sample. It is observed that the highest percentage of individuals studied were women (Fig. 1).

Distribution according to age groups was as follows: From 20 to 30, 5 patients 16.67% of the sample; from 31 to 40 years 20 patients 66.66% of the sample; in the age groups from 41 to 50, 51 to 60 and from 61 to 70 there are no patients, and in the age group from 71 to 80, 5 patients, which corresponds to 16.67% of the sample. The distribution of the sample is not homogeneous since there are age groups that had no representation in the sample. Also, it was observed that the highest percentage of individuals studied are in group 31 to 40, followed by the group 20 to 30, which leads to infer that the population studied is relatively young (Fig. 2).

The distribution of the sample according to the diagnoses presented for the patients was as follows: 10 hemorrhoidal fluxions 33.33% of the sample; 10 hemorrhoidal prolapses 33.33 of the sample; 5 plicomas 16.67% of the sample; 4 Anal fissures 13.33% of the sample; 1 tu of anal canal 3.34% of the sample. It is observed that the hemorrhoidal pathology was the most common in this group representing up to 66.66% of the individuals studied, followed by anal plicomas, anal fissures and tu of the anal canal (Fig. 3).

The distribution of the sample according to the surgical procedures performed was as follows: 10 thrombectomies 33.33% of the sample, 10 hemorrhoidectomies by Milligan and Morgan technique 33.33% of the sample, 5 exerese of anal plicomas 16.67% of the sample, 4 internal lateral sphincterotomies 13.33%% of the sample, 1 anal canal tu biopsy 3.34% of the sample. It was noted that the most used surgical procedures were hemorrhoidal thrombectomies and Milligan and Morgan hemorrhoidectomy, both involving 66.66% of the procedures performed, followed by the exerese of anal plicomas and internal lateral sphincterotomy, and the procedure performed less was biopsy of anal canal (Fig. 4).

Pain tolerance during this procedure was measured according to the visual analog pain scale during intraoperative, 1 day after surgery and 5 days after surgery. This scale considered very good tolerance when the score was 0 to 1, good tolerance 2 to 3 points, regular tolerance 4 to 5 points, poor tolerance 6 to 7 points, very poor tolerance 8 to 10 points.

The results were as follows: During the intraoperative 15 patients with very good tolerance 50% of the sample, 15 patients with regular tolerance 50% of the sample. At day 1 postoperative 15 patients with very good tolerance 50% of the sample, 15 patients with regular tolerance 50% of the sample. At day 5 of postoperative the 30 patients showed very good

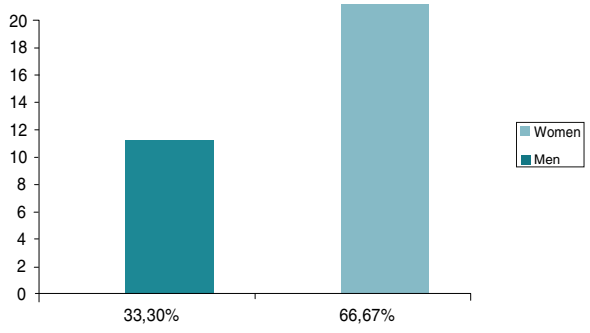

Fig. 1 – Distribution by sex.

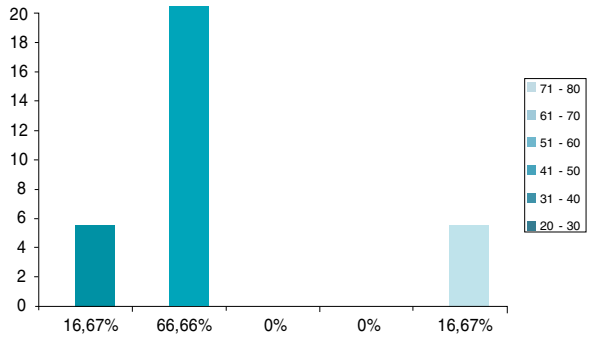

Fig. 2 – Distribution by age group.

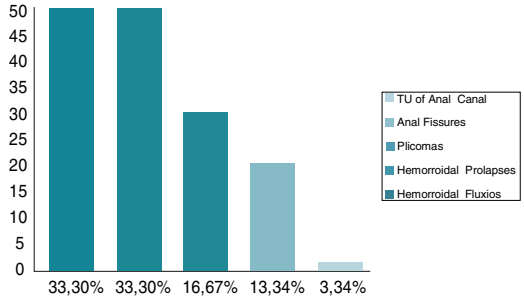

Fig. 3 – Distribution per diagnosis.

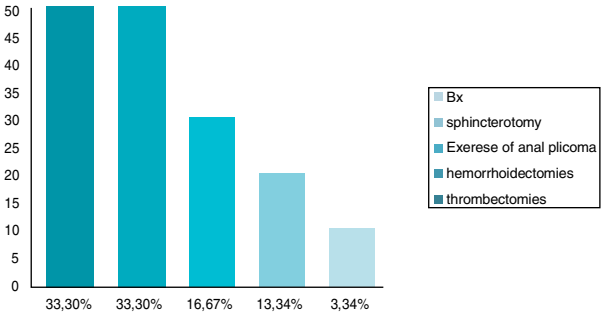

Fig. 4 – Distribution by surgical procedure.

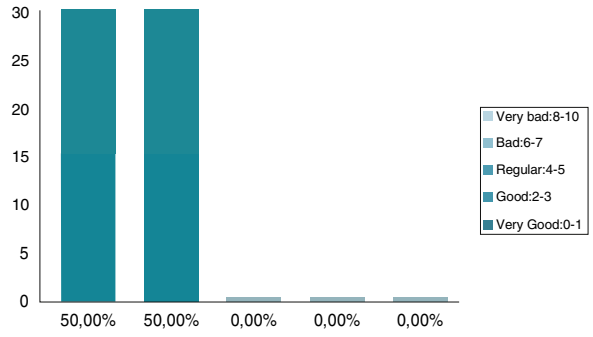

Fig. 5 – Pain tolerance.

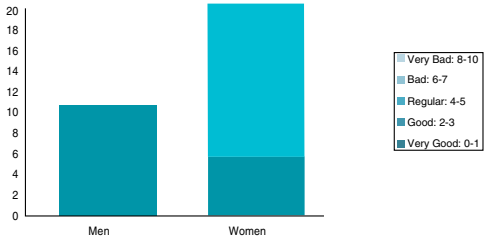

Fig. 6 – Tolerance to pain per sex.

tolerance to pain, which corresponds to 100% of the sample. In general it is observed that tolerance to pain in intraoperative and during the first postoperative day is equal to the fifth day; it must be highlighted that 100% of the group studied presented a very good tolerance to pain (Fig. 5).

The results of tolerance to pain during the procedure according to sex were as follows: During intraoperative, 10 men very showed good tolerance 33.33% of the sample, 5 women very good tolerance 16.67%, 15 women tolerance regular 50% of the sample. At day 1 postoperative 10 men very good tolerance, 33.33% of the sample, 5 women very good tolerance 16.67% of the sample, 15 women tolerance regular 50% of the sample. At day 5 the 30 patients had very good pain tolerance 100% of the sample (Fig. 6).

It is noted that men presented a very good tolerance to pain during the procedure, not only during the intraoperative, due to the fact that this tendency is maintained during the first and fifth postoperative day; as for the women, it was observed that the greater percentage presents a regular tolerance to pain during the intraoperative period and the first postoperative day, and on the fifth day they already present a very good tolerance.

Discussion

The present study describes a local anesthetic protocol for the surgical resolution of anorectal pathologies.

The diagnoses presented by the patients were as follows: 10 hemorrhoidal fluxions representing 33.33% of the sample, 10 hemorrhoidal prolapses 33.33% of the sample, 5 plicomas 16.67% of the sample, 4 anal fissures 13.33% of the sample, 1 tu of anal canal 3.34% of the sample.

It was noticed that hemorrhoidal pathology was the most common in this group presenting up to 66.66% of the individuals studied, followed by anal plicomas, anal fissures and tu of the anal canal.

These results match those of the study carried out by Ochoa, from the general surgery service of the Hospital Miguel Pérez Carreno, Caracas Venezuela, who carried out a prospective and comparative study between two of the techniques most used in the surgical treatment of hemorrhoids, concluding that this pathology has a high frequency rate. As a result, it was proposed that the Ferguson technique, closed with local anesthesia, constitutes an effective surgical technique that is practiced ambulatory with a low percentage of complications, which provides more tolerant postoperative conditions for the patient with an early return to work that has a positive impact on the reduction of hospitalization costs.[1]

Regarding the age groups of these pathologies, there is an incidence in the ages from 20 to 30 of 5 patients which presents 16.67% of the sample; 31 to 40, 20 patients 66.66% of the sample; the groups representing 41 to 50, 51 to 60 and 61 to 70 had no representation, and from 71 to 80, 5 patients, 16.67% of the sample.

The distribution of the sample is not homogeneous since there are age groups that were not expressed as there are no individuals in them. It is observed that the highest percentage of individuals studied are in the group of 31 to 40 years, followed by the group of 20 to 30 years, which leads to infer that the population studied is relatively young.

This is consistent with the study by Cañas et al., where they conclude that 80.2% of the patients treated with anoxic aortic pathologies are younger than 51 years of age.[3]

The distribution according to sex was the following: 10 men corresponding to 33.33% of the sample and 20 women 66.67% of the sample. It is observed that the highest percentage of individuals studied were women.

The results above are not consistent with the study by Cañas et al. in the Coloproctology Service of the Clinical-Surgical Hospital "Hermanos Ameijeiras" and University Teaching Calixto García, between February and October 2004, where the predominant gender was that of men (70.8%).[3]

With respect to the frequency of the surgical procedures performed the results were the following: 10 thrombectomies 33.33% of the sample, 10 hemorrhoidectomies by Milligan and Morgan technique 33.33% of the sample, 5 exercises of anal plicomas 16.67% of the sample, 4 internal lateral sphincterotomy 13.33%% of the sample, 1 biopsy of the anal canal tu 3.34% of the sample.

It is observed that the most performed surgical procedures were hemorrhoidal thrombectomies and Milligan and Morgan hemorrhoidectomy, both involving 66.66% of the procedures performed, followed by the exerese of anal plicomas and internal lateral sphincterotomy, and the less effected procedure was biopsy of anal canal.

The results above match those of the study by Ochoa of the general surgery consultation of the Miguel Pérez Carreno Hospital, Caracas, Venezuela, who showed a high frequency rate of hemorrhoidal pathology and, consequently, a high rate of resolution of these pathologies using the Ferguson technique, a closed technique with local anesthesia, and the open technique or Milligan and Morgan technique.[1]

They also coincide with the study by Cañas. Because there is a high frequency of hemorrhoidal pathology (46.8%), there is also a high rate of surgical resolution of the same.[3]

With regard to pain tolerance during the procedure mentioned above, the results were as follows: During intraoperative, 15 patients with very good tolerance, 50% of the sample and 15 patients with regular tolerance, 50% of the sample. At day 1 postoperative, 15 patients with very good tolerance 50% of the sample, 15 patients with regular tolerance 50% of the sample. At day 5 postoperative all 30 patients showed very good tolerance to pain 100% of the sample. In general it is observed that tolerance to pain in the intraoperative and during the first postoperative day is equal to the fifth day. In addition, it was observed that 100% of the group studied presented a very good tolerance to the pain.

The results of pain tolerance during the procedure according to sex were as follows: During intraoperative, 10 men very good tolerance 33.33% of the sample, 5 women very good tolerance 16.67% and 15 women regular tolerance 50% of the sample. At day 1 postoperative 10 men very good tolerance 33.33% of the sample, 5 women very good tolerance 16.67% of the sample and 15 women regular tolerance 50% of the sample. At day 5 all 30 patients had very good tolerance to pain 100% of the sample. It was observed that men presented a very good tolerance to the pain during the procedure, not only during intraoperative, since this tendency is maintained during the first day and the fifth postoperative day. As for the women, we observed that the greater percentage presented a regular tolerance to pain during the intraoperative period and the first postoperative day, and on the fifth day presented very good tolerance.

The results above are consistent with the study by Cañas, where regional anesthetic blockade allowed a better control of postoperative pain. At 6 h, 33.3% of the patients reported minor pain or discomfort. This proportion increased to 64.6% at 12 h after surgery. At 24 h, postoperative pain control had been achieved in 83.3% of patients.[3]

It is important to emphasize that in this study there is no emphasis in differences on tolerance to pain according to sex.

There were no complications related either to the surgical procedure or to the anesthetic protocol.

Conclusions

1. As a result of the present study, it was concluded that, with respect to the predominance of anorectal pathologies by sex, hemorrhoidal pathology prevails in men over women.
2. Anorectal pathology is more frequent in the age group 31 and 40.
3. The most frequently diagnosed anorectal pathology is hemorrhoidal pathology, followed by anal fistulas.
4. Due to the high rate of diagnosed hemorrhoidal pathologies, the operative surgical procedures predominate.
5. As a result of the present study, it was concluded that local anesthesia allowed a good tolerance to pain in the patients studied.
6. In conclusion, local anesthesia as an anesthetic procedure in men produced a very good tolerance to pain during the intraoperative period as in the postoperative periods corresponding to the 1st and 5th day. In women, pain tolerance was regular during the intraoperative and postoperative periods corresponding to the 1st and 5th day, however, after the 5th day it became very good.
7. There were no complications related to the anesthetic protocol or inherent to the surgery.

Conflicts of interest

The authors declare no conflicts of interest.

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