

Prevalência e Influência do Sexo, Idade e Tipo de Operação na Dor Pós-Operatória*

Prevalence and Influence of Gender, Age, and Type of Surgery on Postoperative Pain

Tânia Cursino de Menezes Couceiro, TSA¹, Marcelo Moraes Valença², Luciana Cavalcanti Lima³,
Telma Cursino de Menezes⁴, Maria Cristina Falcão Raposo⁵

RESUMO

Couceiro TCM, Valença MM, Lima LC, Menezes TC, Raposo MCF - Prevalência e Influência do Sexo, Idade e Tipo de Operação na Dor Pós-Operatória.

JUSTIFICATIVA E OBJETIVOS: A dor no pós-operatório é um evento frequente, apesar do arsenal terapêutico existente. Sua ocorrência está relacionada a fatores inerentes ao procedimento cirúrgico e ao paciente. O estudo teve como objetivo avaliar a prevalência da dor no pós-operatório em pacientes internados e sua associação com o sexo e o tipo de operação.

MÉTODO: Estudo do tipo corte transversal, realizado por entrevista a 187 pacientes submetidos a operações. Avaliou-se a ocorrência da dor nas primeiras 24 horas e sua intensidade através da escala numérica visual: leve (1 a 3), moderada (4 a 6) e forte (7 a 10).

RESULTADOS: Dos 190 pacientes entrevistados, três foram excluídos por dificuldade de entender o método utilizado para avaliar a dor. Na amostra, 66,8% (n = 125) eram mulheres. A média de idade foi de 45,83 ± 16,17 anos, sendo 25,1% (n = 47) com 60 anos ou mais. Nas primeiras 24 horas, 46% (n = 85) dos pacientes relataram dor. Dentre os homens 48,4% (n = 30) referiram dor e dentre as mulheres, 66,8% (n = 55). Não houve diferença significativa entre a prevalência de dor por sexo (p = 0,536) e idade (p = 0,465). Quanto à intensidade, a dor foi considerada leve em 29,4%, moderada em 43,5% e forte em 27,1% dos pacientes. Houve associação significativa entre a ocorrência da dor pós-operatória e o tipo de operação (p = 0,003).

CONCLUSÕES: O estudo mostra que um elevado número de pacientes ainda sente dor nas primeiras 24 horas do pós-operatório. Pacientes submetidas à Cirurgia Geral sentiram mais dor no pós-operatório que nos demais tipos de operações.

Unitermos: DOR, Aguda: pós-operatória.

SUMMARY

Couceiro TCM, Valença MM, Lima LC, Menezes TC, Raposo MCF – Prevalence and Influence of Gender, Age, and Type of Surgery on Postoperative Pain.

BACKGROUND AND OBJECTIVES: Postoperative pain is frequent despite of the therapeutic armamentarium available. Its development is related with factors inherent to the surgery and patient. The objective of this study was to evaluate the prevalence of postoperative pain in hospitalized patients and its association with gender and type of surgery.

METHODS: This is a transversal study in which interviews were done with 187 patients undergoing surgeries. The incidence of pain in the first 24 hours and its severity according to a numeric rating scale: mild (1 to 3), moderate (4 to 6), and severe (7 to 10), were evaluated.

RESULTS: Three of 190 patients interviewed were excluded due to difficulties understanding the method used to evaluate the level of pain. In the study population, 66.8% (n = 125) were females; mean age 45.83 ± 16.17 years, but 25.1% (n = 47) were 60 years old or more. In the first 24 hours, 46% (n = 85) of the patients reported pain. Among male patients, 48.4% (n = 30) complained of pain, while 66.8% (n = 55) of the females did so. The prevalence of pain showed no differences regarding gender (p = 0.536) and age (p = 0.465). As for pain severity, 29.4% of the patients referred mild pain, it was moderate in 43.5%, and severe in 27.1%. A significant association between the incidence of postoperative pain and type of surgery was observed (p = 0.003).

CONCLUSIONS: This study demonstrated that an elevated number of patients experience pain in the first 24 hours after the surgery. The incidence of pain was higher in patients undergoing general surgery.

Keywords: PAIN, Acute: postoperative.

* Recebido do (Received from) Hospital Barão de Lucena, Recife, PE

1. Responsável pela Residência Médica em Anestesiologia do IMIP; Título de Especialista em Acupuntura pela SMBA; Título de Atuação em Dor pela SBA-AMB; Algodologista do Hospital Barão de Lucena

2. Doutorado em Neurologia e Neurocirurgia; Professor Associado de Neurologia e Neurocirurgia da Universidade Federal de Pernambuco

3. Anestesiologista; Mestra em Saúde Materno-Infantil

4. Mestra em Saúde Materno-Infantil; Preceptora da Residência Médica de Ginecologia e Obstetrícia do Instituto de Medicina Integrada Prof. Fernando Figueira

5. Doutorado em Estatística; Professora Adjunta do Departamento de Estatística da Universidade Federal de Pernambuco

Apresentado (Submitted) em 25 de novembro de 2007
Aceito (Accepted) para publicação em 28 de fevereiro de 2009

Endereço para correspondência (Correspondence to):

Dra. Tânia Cursino de Menezes Couceiro
Rua Jornalista Guerra de Holanda 158/1602
Casa Forte
52061-010 Recife, PE
E-mail: taniacouceiro@yahoo.com.br

aspects and physiological repercussions of postoperative pain, it delays ambulation and hospital discharge. Some authors believe that, despite the drugs and anesthetic techniques available, the prevalence of postoperative pain is still high¹⁻³. The prevalence of postoperative pain was estimated in the decades of 1970 and 1980 in 73% and 58%, respectively^{4,5}. In services with strict protocols to control postoperative pain, its prevalence can be reduced significantly, with a prevalence of only 7% in outpatient surgeries.

Considering the lack of knowledge about the magnitude of postoperative pain in public hospitals in Recife, Brazil, a study to evaluate the prevalence of postoperative pain considering gender and type of surgery was undertaken.

METHODS

After approval by the Ethics Commission, a prospective, descriptive, transversal study was undertaken. From August to September 2006, patients in the surgical ward of the Hospital Barão de Lucena who underwent different surgeries were interviewed in the first 24 hours after the surgery. All patients undergoing general surgery (umbilical and inguinal herniorrhaphies, conventional and laparoscopic cholecystectomies, and exploratory laparotomy), proctologic (orificial and colectomies), vascular (varicose veins and amputations), gynecological (vaginal and abdominal hysterectomies), and breast (removal of nodes and biopsies) surgeries, of both genders, 18 years or older, who agreed to sign the informed consent, were included in the study. Patients with any difficulty to understand the pain evaluation method (numeric rating scale) were excluded. The presence or absence of pain in the first 24 postoperative hours and its severity were evaluated by a numeric rating scale (NRS). For further analysis, pain was classified as mild (NRS 1 to 3), moderate (NRS 4 to 6), and severe (NRS 7 to 10).

The software SPSS version 13.0 was used for the statistical analysis. Descriptive measurements (proportion, mean, standard deviation) were used, in the association study the Pearson's Chi-square test of independence was used; and odds ratio was calculated in the case of significant associations. It was considered a level of significance of 5%.

RESULTS

One hundred and ninety patients were interviewed; three were excluded for having difficulties understanding the pain evaluation method. Therefore, 187 patients were included in the analysis of the data.

Patients underwent different types of surgery; 35.3% underwent general surgery, 23.5% vascular, 18.2% gynecological, 16.6% proctologic, and 6.4% breast surgery. Most patients were females, 66.8% (n = 125), and 33.2% (n = 62) were males. Patients had a mean age of 45.8 years with SD of 16.2 years; and 25.1% (n = 47 years) were 60 years or older. The prevalence of postoperative pain in the first 24 hours

Prevalence and Influence of Gender, Age, and Type of Surgery on Postoperative Pain

Tânia Cursino de Menezes Couceiro, T.S.A., M.D.; Marcelo Moraes Valença, M.D.; Luciana Cavalcanti Lima, M.D.; Telma Cursino de Menezes, M.D.; Maria Cristina Falcão Raposo, M.D.

INTRODUCTION

Postoperative pain is very common and develops naturally as a warning¹. After surgery, its development can be predicted and should be prevented and treated². Besides the disagreeable

Table I – Patients with Postoperative Pain, Distribution in Type of Surgery, and the Presence of Postoperative Pain

Parameters	Postoperative Pain			Statistics	
	Yes	No	Total	χ^2	p
Gender				0.169	0.681
Male	30 (48.4%)	32 (51.6%)	62 (100%)		
Female	55 (44.0%)	70 (56.0%)	125 (100%)		
Age				0.523	0.469
< 60 years	61 (43.6%)	79 (56.4%)	140 (100%)		
≥ 60 years	24 (51.1%)	23 (48.9%)	47 (100%)		
Type of surgery				8.952	0.003
General	46 (59.0%)	32 (41.0%)	78 (100%)		
Others *	39 (35.8%)	70 (64.2%)	109 (100%)		

*Corresponds to: proctologic, vascular, gynecological, and breast surgeries

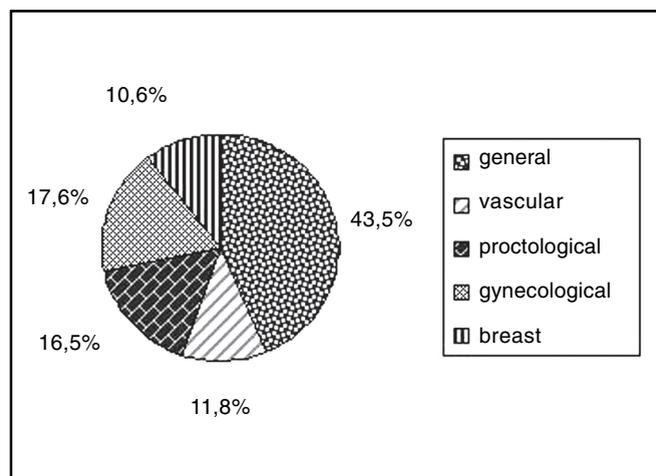


Figura 1 – Patients with Postoperative Pain. Distribution in type of surgery.

was 46%. Of 85 patients who complained of postoperative pain, Figure 1 shows that 43.5% underwent general surgery and 17.6% gynecological.

Initially, bivariate analysis was used to identify factors associated with the development of postoperative pain (Table I). As for prevalence according to gender, 48.4% (n = 30) of the males complained of pain, while 44.0% (n = 55) of the females had similar complaints. The difference between genders was not significant (p = 0.681). Although the prevalence of pain was higher among patients older than 60 years (51.1%) than among younger patients (43.6%), this difference was not significant (p = 0.469). As for the relationship between pain and the type of surgery, a significant correlation was seen with 59% of patients undergoing general surgery (umbilical and inguinal herniorrhaphies, lapa-

roscopic and conventional cholecystectomies) versus 35.8% in other subspecialties (p = 0.003).

Considering pain severity, it was mild (1 to 3) in 29.4%, moderate (4 to 6) in 43.5%, and severe (7 to 10) in 27.1%.

DISCUSSION

It was observed that the prevalence described in the literature vary considerably according to the reports of Moizo (2.2%), Apfelbaum (58%), and Pyati (70%).

In the present study, the prevalence of pain in the first 24 postoperative hours was 46%, considering all degrees. This is lower than that reported by Pyati⁷ (70%) and Apfelbaum et al. (58%)¹.

In the hospital where this study was conducted, analgesics were prescribed according to the preference of the physician, and it does not have an acute pain treatment service. This probably explains the high incidence of pain in the first 24 hours, since it is known that the multimodal approach to the treatment of acute pain results in lower prevalence of postoperative pain, according to the results of Moizo (2.2%)⁸. It should be mentioned that, although their patients received pain treatment according to rigorous protocols of the pain service, the prevalence of pain (41%) in hospitalized patients reported by Sommer et al.¹¹ was similar to the present study. The incidence of moderate (29.4%) and severe (27.1%) pain was higher than that reported by Dolin et al. when they studied postoperative pain in patients undergoing major surgeries⁹ (30% and 11%, respectively), but it was lower than the results of Janssen et al., who reported a 67% incidence of severe pain in hospitalized patients¹⁰. The high prevalence observed by Janssen can be explained by the fact that the author considered any pain equal or higher than six (≥ 6) in the numeric rating scale as severe, while in the present study, pain equal or higher than seven (≥ 7) was considered severe.

There is evidence in the literature that the pain threshold is lower in women¹² and their response to painful stimuli differs from males¹³. However, in the present study, differences in the incidence of pain between males and females or related to any age group were not observed. These data differ from that of Uchiyama¹², who studied the prevalence of postoperative pain in patients undergoing videolaparoscopic cholecystectomy, demonstrating that severe pain is more frequent in women⁵.

Ochroch et al.¹³ also reported a higher incidence of pain in women undergoing thoracic surgery. It might be related to the fact that women verbalize their pain more often than men.

As for age, our results differed from those reported by Chung et al., who identified a higher frequency in younger and male patients⁶.

When postoperative pain was associated to the type of surgery, the incidence was higher in patients undergoing general surgery (inguinal and umbilical herniorrhaphies, conventional and laparoscopic cholecystectomies, and exploratory laparoscopies). Those results differ from other authors who reported a higher prevalence of pain in patients who underwent orthopedic procedures¹⁴.

Despite having excluded three patients due to difficulties understanding the pain evaluation method, we do not think that this fact interfered with the results.

This study has limitations that should be discussed. First, the wide variety of surgical procedures included. For this reason, one cannot exclude possible factors related to each surgery, such as site and size of the incision, and intracavitary or superficial, that might have interfered with the results.

Second, it is impossible to group procedures, since pain severity is different according to the type of surgery performed by the same surgical subspecialty like, for example laparoscopic and conventional cholecystectomies, amputation and saphenous vein surgery.

Third, it is possible that the incidence and severity of pain were modified by the type of anesthesia, since it is known that in patients undergoing neuroaxis block (spinal and epidural blocks) analgesia can be prolonged due to the residual sensitive blockade, as well as the use of opioids, resulting in a reduction in pain severity¹⁴.

Similarly, in patients undergoing general anesthesia, pain severity can vary according to the drugs used. However, in a recent study, Fassoulaki et al.¹⁶ showed no differences between the need of morphine in the first 24 hours in patients undergoing gynecological surgeries under different techniques of general anesthesia.

Finally, it is important to emphasize the fourth limitation of the study, the size of the sample. Data were collected during a specific time (one month) and they cannot be extrapolated to the general population.

It was observed that patients undergoing general surgeries have a higher probability of developing postoperative pain; therefore, the treatment of postoperative pain should be considered in this group.

It is known that inadequate treatment of postoperative pain results in delayed recovery¹⁵ and chronic postoperative pain^{18,19} interfering with the quality of life^{15,18}.

One may conclude that the prevalence of postoperative pain in the present study was elevated, with a significant correlation with the type of surgery.

We would like to acknowledge the help of the surgical department and the Board of Director of the Hospital Barão de Lucena, in Recife, on the present study.

REFERENCES

1. Apfelbaum JL, Chen C, Mehta SS et al. - Postoperative pain experience: results from a national survey suggest postoperative pain continues to be undermanaged. *Anesth Analg* 2003;97:534-540.
2. Power I - Recent advances in postoperative pain therapy. *Br J Anaesth* 2005;95:43-51.
3. Omote K - Intravenous lidocaine to treat postoperative pain management: novel strategy with a long-established drug. *Anesthesiology* 2007;106:5-6.
4. Marks RM, Sachar EJ - Undertreatment of medical inpatients with narcotics analgesics. *Ann Intern Med* 1973;78:173-181.
5. Donovan M, Dillon P, McGuire L - Incidence and characteristics of pain in a sample of medical-surgical inpatients. *Pain* 1987;30:69-78.
6. Chung F, Ritchie E, Su J - Postoperative pain in ambulatory surgery. *Anesth Analg* 1997;85:808-816.
7. Pyati S, Gan TJ - Perioperative pain management. *CNS Drugs* 2007;21:185-211.
8. Moizo E, Berti M, Marchetti C et al. - Acute Pain Service and multimodal therapy for postsurgical pain control: evaluation of protocol efficacy. *Minerva Anestesiol* 2004;70:779-787.
9. Dolin SJ, Cashman JN, Bland JM - Effectiveness of acute postoperative pain management: I. Evidence from published data. *Br J Anaesth* 2002;89:409-423.
10. Janssen KJ, Kalkman CJ, Grobbee DE et al. - The risk of severe postoperative pain: modification and validation of a clinical prediction rule. *Anesth Analg* 2008;107:1330-1339.
11. Sommer M, de Rijke JM, van Kleef M et al. - The prevalence of postoperative pain in a sample of 1490 surgical inpatients. *Eur J Anaesthesiol* 2008;25:267-274.
12. Uchiyama K, Kawai M, Tani M et al. - Gender differences in postoperative pain after laparoscopic cholecystectomy. *Surg Endosc* 2006;20:448-451.
13. Ochroch EA, Gottschalk A, Troxel AB et al. - Women suffer more short and long-term pain than men after major thoracotomy. *Clin J Pain* 2006;22:491-498.
14. Bonica, JJ - *The Management of Pain*, 2 Ed, Philadelphia, Lea & Febiger 1990;461-480.
15. Liu SS, Strodbeck WM, Richman JM et al. - A comparison of regional versus general anesthesia for ambulatory anesthesia: a meta-analysis of randomized controlled trials. *Anesth Analg* 2005;101:1634-1642
16. Fassoulaki A, Melemini A, Paraskeva A et al. - Postoperative pain and analgesic requirements after anesthesia with sevoflurane, desflurane or propofol. *Anesth Analg* 2008;107:1715-1719.
17. Burckhardt CS, Jones KD - Effects of chronic widespread pain on the health status and quality of life of women after breast cancer surgery. *Health Qual Life Outcomes* 2005;3:30.

18. Nikolajsen L, Sorensen HC, Jensen TS et al. - Chronic pain following Caesarean section. Acta Anaesthesiol Scand 2004; 48:111-116.
19. Aasvang E, Kehlet H - Chronic postoperative pain: the case of inguinal herniorrhaphy. Br J Anaesth 2005;95:69-76.
20. Joshi GP, White PF - Management of acute and postoperative pain. Curr Opin Anaesthesiol 2001;14:417-421.

RESUMEN

Couceiro TCM, Valença MM, Lima LC, Menezes TC, Raposo MCF - Prevalencia e Influencia del Sexo, Edad y del Tipo de Operación en el Dolor Postoperatorio.

JUSTIFICATIVA Y OBJETIVOS: El dolor en el postoperatorio es un evento frecuente, a pesar del arsenal terapéutico existente. Su apareamiento está relacionado con los factores inherentes al procedimiento quirúrgico y al paciente. El estudio tuvo como objetivo, evaluar la prevalencia del dolor en el postoperatorio en pacientes ingresados y su asociación con el sexo y el tipo de operación.

MÉTODO: Estudio del tipo corte transversal, realizado por entrevista a 187 pacientes sometidos a la operación. Se evaluó el

apareamiento del dolor en las primeras 24 horas, y su intensidad a través de la escala numérica: leve (1 a 3), moderada (4 a 6) y fuerte (7 a 10).

RESULTADOS: De los 190 pacientes entrevistados, tres de ellos quedaron excluidos por dificultad de entender el método utilizado para evaluar el dolor. En la muestra, un 66,8% (n = 125) eran mujeres. El promedio de edad fue de $45,83 \pm 16,17$ años, siendo 25,1% (n = 47) con 60 años o más. En las primeras 24 horas, 46% (n = 85) de los pacientes relataron dolor. Entre los hombres, un 48,4% (n=30) relataron dolor y entre las mujeres, 66,8% (n = 55). No hubo diferencia significativa entre la prevalencia de dolor por sexo (p = 0,536) y edad (p = 0,465). En cuanto a la intensidad, el dolor se consideró leve en un 29,4%, moderado en 43,5% y fuerte en 27,1% de los pacientes. Hubo una asociación significativa entre el apareamiento del dolor postoperatorio y el tipo de operación (p = 0,003).

CONCLUSIONES: El estudio muestra, que un elevado número de pacientes todavía siente dolor en las primeras 24 horas del postoperatorio. Las pacientes sometidas a la Cirugía General, sintieron más dolor en el postoperatorio que en los demás tipos de operaciones.