



THE DIRECT ROLE OF MORPHINE IN POSTPARTUM PAIN RELIEF

Dr. Hamed Ahmed Hamdan

M.B.Ch.B. \ D.G.O. (Obstetrics and Gynecology)

Iraqi Ministry of Health, Thi Qar Health Office, Habbobi Teaching Hospital for Obstetrics & Gynecology, Thi-Qar, Iraq.

Dr. Shurooq Kadhim Jawad

M.B.CH.B. \ F.I.C.M.S. (Anesthetist)

Iraqi Ministry of Health, Baghdad Health Office Al-Karkh, Al Karkh General Hospital, Baghdad, Iraq.

Dr. Jinan Shehab Ahmed

M.B.Ch.B. \ D.A. (Anesthetist)

Iraqi Ministry of Health, Baghdad Al-Rusafa Health Directorate, Neurosurgery Teaching Hospital, Baghdad, Iraq.

Abstract

This paper aims to know the direct role of morphine in postpartum pain relief of Iraqi Women A systematic study was established consisting of two groups of patients and control, where patients were collected from different hospitals in Iraq. The group of patients consisted of 30 patients, while as for the control group it was 15 patients

Patients were assessed based on the amount of oral pain relievers required, and a visual analog scale (VAS) sensitive enough to measure pain was used and the VAS data correlates well with other methods of measuring pain intensity.

Role morphine to decrease complication Nausea according to VAS, where we notice a decrease in symptoms and a noticeable improvement by 40%, and the same is the case in relieving headache pain, but the percentage of improvement increased and became 60%, but this does not mean we can take morphine at any time and in final

we concluded in this study that morphine helps to reduce the intake of pain relievers that are taken orally.

Keywords: VAS, morphine, postpartum, dose.

Introduction

The mechanism of postpartum pain control depends on the anesthesia method that was used before giving birth, and in This study was based on morphine

In this study, the pain generated by the postpartum was addressed, and it is possible to experience severe pain postpartum due to an episiotomy and tearing of the perineum or the presence of reflux into the uterus. The epidural that is used in this study indicates that postpartum women are more effective [1,2]



Through previous scientific research and studies on this subject, it was noted that 125 grams of intrathecal morphine was given during labor and contributed to reducing the need for postpartum pain medications [3,4,5].

Morphine is an alkaloid and can be administered orally, intravenously, intramuscularly, subcutaneously, epidural, intrathecal, transdermal, or rectally. Morphine has a sedative and antitussive effect, has a strong dependence potential, and crosses the placenta [6,7,8].

Administration of morphine during labor can cause respiratory depression in the newborn. After prolonged use (also in case of dependence or abuse) until delivery, withdrawal symptoms in the newborn cannot be ruled out, which can also occur with a delay of up to 72 hours and may be difficult. According to the current state of knowledge, no permanent defects are expected after successful treatment. An increased risk of sudden infant death syndrome or subsequent behavioral problems in babies who are born for a longer period of time is discussed [8,9,10].

The pain reliever can be used in the form of tablets, capsules, drops, suppositories, and injections. The appropriate dose must be determined individually for each patient [11,12,13]

Typically, the adult dose is between 60 and 120 milligrams per day. However, when the drug is injected directly into the blood, the dose is lower (usually between 10 and 60 milligrams).

The sedation has a relatively short duration of two to four hours. Therefore, delayed-release tablets are often given to the active ("retarded") component. It allows a stable release of the active ingredients and thus long-term pain relief. The effect of these long-acting tablets does not occur until about three hours later, but after that, it lasts for about a whole day. However, if an immediate effect is desired, other dosage forms are used - e.g., morphine drops [14,15,16].

Medications containing morphine should always be discontinued "gradually," that is, not abruptly, but by gradually reducing the dose. In this way, severe withdrawal symptoms can be avoided [17,18,19,20].

Material and Method

Patient Sample

A systematic study was established consisting of two groups of patients and control, where patients were collected from different hospitals in Iraq and the group of patients consisted of 30 patients, while as for the control group, it was 15 patients

The statistical analysis program IBM SOFT SPSS was relied upon to analyze the demographic data and information that was based on this study

Study Design

A systematic study was conducted from two groups to women who suffer from postpartum pain; where this study discussed the role that it leaves strong towards morphine to women who suffer from postpartum pain and by analyzing the ages of patients, depending on the statistical analysis program, finding a low average age for the control and patients' groups, where the mean value was for the group of patients (30 ± 4.4) and the control group (29 ± 4.5).



The electronic record in the hospital was relied upon to collect information about patients, consisting of (age, body mass index, in addition to gestational, cervical dilation, fetal station opioids used during pregnancy to relieve pain (e.g., morphine); But they also cause a severe numbness, and overuse can lead to addiction; As it is easy to cross these drugs to the fetus through the placenta, then withdrawal symptoms may appear after 6 hours to 8 days for both the mother and the child after birth.

Study Period

Cooperating with the relevant committees for the purpose of obtaining the necessary and required licenses to collect information and demographic data for patients. The study period was two years, from the period of study 1-8-2019 to 10-9-2021

Aim of Research

This paper aims to know the direct role of morphine in postpartum pain relief of Iraqi women

Results

In this study, two groups were established, as shown in the table below. Patients' ages were analyzed based on the chi-square value, where samples were distributed equally for a period of 4 years between groups. The most frequent ages were from 25-29 for 15 patients, 30-34 for ten patients, and 35-39 for five patients, as shown in Table 1.

Table 1- distribution of patient according to age

Age	N	P%	Chi square	t-test	P value
25-29	15	50	1.13	2.3	0.01
30-34	10	33.3			0.83
35-39	5	16.6			0.033
Total	30	100%			----

Table 2- distribution of control according to age

Age	N	P%	Chi square
22-26	7	46.6	1.09
27-31	5	33.3	
32-36	3	20	
Total	30	100%	

Table3- distribution of patient according to BMI

Age	BMI	P Value
25-29	25.3±3.9	0.05
30-34	24.2±3.3	
35-39	24.1±4.4	



Table 4- distribution of control according to BMI

Age	BMI	P Value
22-26	23.2±1.9	0.08
27-31	23.5±3.3	
32-36	23.9±4.22	
Total	100%	

Table 5- demographic results of patient

P	G1	G2
Gestation (weeks)	40 W	39 W
CD cm	2-4	2-4
augmented labor	19patient	10patients
CSE	18	11
Epidural	6	4
NW(GM)	3255±320	3350±423
incision made in the perineum (N)	22	3
A vaginal tear	17	8

Fig 1- p-value between groups

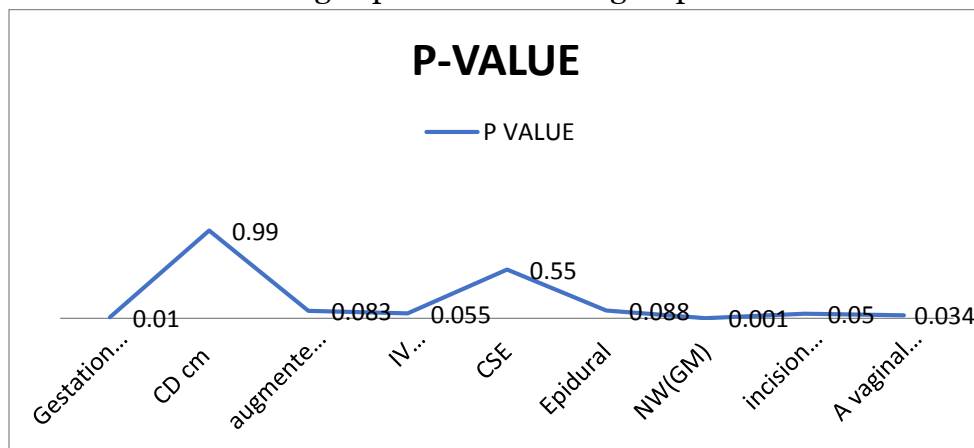


Table 6- the role of morphine to decrease complication Nausea according to VAS

Nausea	(N) Pre-treatment	VAS before treatment	Vas post-treatment
None	9	—	0.11±0.99
Mild	10	3.1±1.22(a)	1.9±1.11*
Moderate	7	5.22±1.03	4.22±1.55*
Severe	4	7.99±1.65	6.66±1.99*



Table 7- the role of morphine to decrease the complication of urinary retention

Nausea	(N) Pre-treatment	VAS Pre-treatment	Vas post-treatment
None	18	–	0.11±0.99
Mild	7	3.1±1.22(a)	1.9±1.11*
Moderate	3	5.22±1.03	4.22±1.55*
Severe	2	7.99±1.65	6.66±1.99*

Fig 2- outcomes of the patient for urinary retention according to Foley catheter

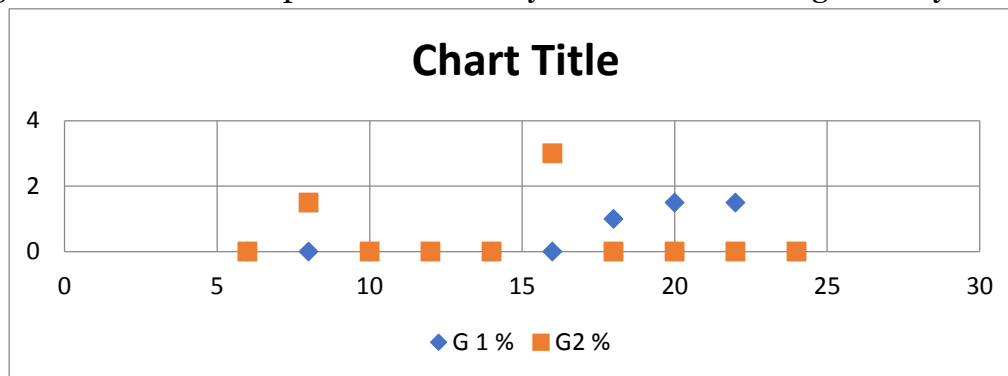


Table 8- assessment of complication according to headache (VAS score)

Nausea	(N) Pre-treatment	VAS Pre-treatment	Vas post-treatment
None	5	–	0.11±0.99
Mild	14	2.99±1.30(b)	1.4±0.88*
Moderate	8	5.55±1.11	3.23±1.44*
Severe	3	8.11±1.44	6.33±1.22*

Discussion

This study discussed the direct effect of morphine on reducing pain in women postpartum, as this study relied on the statistical analysis program to analyze data and demographic information. The ages of patients were divided into three categories, and the most frequent category was from 25-29 years old (50 percent), then from 30-34 years old (33%), and from 35-39 (16.6%), and chi-square (1.13). No statistically significant differences were found between the ages of patients.

As for the control group, the most frequent category in the distribution in relation to the work of patients was from 22-26 years old to 46.6 percent, and in the second place was ages from 27-31 years old for five patients (33.3% /4). 32-36 years for three patients (20%), and the chi-square value for the control group was (1.09).

The BMI was somewhat higher in patients than in the control group, and the ages with the largest BMI in the group of patients were from 25 to 29 years, and BMI was (25.3 ± 3.9)

From 30-34 years old (24.2±3.3) and from 35-39 (BMI = 24.1±4.4), no statistically significant differences were found between the age groups of patients.



And rating scales were relied upon to record the severity of pain, including a Numerical Rating Scale (NRS), which consists of a series of numbers from 1 to 5 or even 10, and the patient must choose a number that reflects the severity of the pain suffers from.

The Verbal Rating Scale (VRS) contains a set of descriptive pain words that reflect the degree of pain increase, numbered sequentially from least severe to greatest: none (0), mild pain (1), moderate pain (2), severe pain (3), very severe pain (4), unbearable pain (unbearable) (5). The Visual Analog Scale (VAS) is a straight line 100 mm long, with or without millimeter divisions. The starting point of the line means no pain, and the end point means unbearable pain.

And in Table 6, which shows role morphine to decrease complication Nausea according to VAS, where we notice a decrease in symptoms and a noticeable improvement by 40%, and the same is the case in relieving headache pain, but the percentage of improvement increased and became 60%, as shown in Table 8, but this does not mean You can take morphine at any time

The drug can be taken for specific periods of time and in certain doses as prescribed by the doctor, and any doctor can resort to one of the alternatives to morphine that reduces the incidence of addiction.

Urinary retention was also observed in patient's full day postpartum, and through this study to show us that there is a relationship between morphine with a 2 mg dose and pain reduction in women postpartum by finding a statistically significant relationship with a value of 0 .001

Conclusion

In this study, a statistically significant relationship was found between employees and pain reduction in women when using a dose of 2 mg. Similar studies were found to our study, but they differed in the proportion of the dose.

Recommendation

When treating pain with morphine, there is usually no apnea. Although the active ingredient has a negative effect on the respiratory regulation center in the brain, this center is so strongly activated when pain is present that breathing generally remains unaffected.

However, if morphine is abused, activation of the pain-induced respiratory regulating center is lost, and shortness of breath or even respiratory arrest can occur.

References

1. Bonnet MPB, Mignon A, Mazoit JX, Ozier, Marret E. Analgesic efficacy and adverse effects of epidural morphine compared to parenteral opioids after elective caesarean section: a systematic review. *Eur J Pain*. 2010;14 (9):894 e891–899.
2. Lavand hme P. Postcesarean analgesia: effective strategies and association with chronic pain. *Curr Opin Anaesthesiol*. 2006;19 (3):244–8.
3. Wilson MJ, Macarthur C, Shennan A, Group CS. Urinary catheterization in labour with high-dose vs. mobile epidural analgesia: a randomized controlled trial. *Br J Anaesth*. 2009;102 (1):97–103.



4. Szarvas S, Harmon D, Murphy D. Neuraxial opioid-induced pruritus: a review. *J Clin Anesth.* 2003;15 (3):234–9.
5. Kumar K, Singh SI. Neuraxial opioid-induced pruritus: An update. *J Anaesthesiol Clin Pharmacol.* 2013;29 (3):303–7.
6. Mulroy MF, Larkin KL, Siddiqui A. Intrathecal fentanyl-induced pruritus is more severe in combination with procaine than with lidocaine or bupivacaine. *Reg Anesth Pain Med.* 2001;26 (3):252–6.
7. Reich A, Szepietowski JC. Opioid-induced pruritus: an update. *Clin Exp Dermatol.* 2010;35 (1):2–6.
8. Simmons SW, Taghizadeh N, Dennis AT, Hughes D, Cyna AM. Combined spinal-epidural versus epidural analgesia in labour. *Cochrane Database Syst Rev.* 2012;10:CD003401.
9. Armstrong S, Fernando R. Side effects and efficacy of Neuraxial opioids in pregnant patients at delivery: a comprehensive review. *Drug Saf.* 2016;39 (5):381–99.
10. Ganesh A, Maxwell LG. Pathophysiology and management of opioid-induced pruritus. *Drugs.* 2007;67 (16):2323–33.
11. Stumpf A, Stander S, Warlich B, Fritz F, Bruland P, Pfliegerer B, et al. Relations between the characteristics and psychological comorbidities of chronic pruritus differ between men and women: women are more anxious than men. *Br J Dermatol.* 2015;172 (5):1323–8.
12. Verhoeven EW, de Klerk S, Kraaijmaat FW, van de Kerkhof PC, de Jong EM, Evers AW. Biopsychosocial mechanisms of chronic itch in patients with skin diseases: a review. *Acta Derm Venereol.* 2008;88 (3):211–8.
13. Moses S. Pruritus. *Am Fam Physician.* 2003;68 (6):1135–42.
14. Toomey M, Biddle C. Update for nurse anesthetists--pt 4. Itching, the "little" big problem as an orphan symptom. *AANA J.* 2006;74 (5):379–84.
15. Girgin NK, Gurbet A, Turker G, Aksu H, Gulhan N. Intrathecal morphine in anesthesia for cesarean delivery: dose-response relationship for combinations of low-dose intrathecal morphine and spinal bupivacaine. *J Clin Anesth.* 2008;20 (3):180–5.
16. Palmer CM, Emerson S, Volgoropolous D, Alves D. Dose-response relationship of intrathecal morphine for postcesarean analgesia. *Anesthesiology.* 1999;90 (2):437–44.
17. Chinachoti T, Nilrat P, Samarnpiboonphol P. Nausea, vomiting and pruritus induced by intrathecal morphine. *J Med Assoc Thai.* 2013;96 (5):589–94.
18. Jiang C, Liu C, Wu T, Sun W-Z, Lin S, Huang F, et al. Mini-dose intrathecal morphine for post-cesarean section analgesia. *Ma Zui Xue Za Zhi.* 1992; 29:683–9.
19. Cottrell BH. A review of opioid-induced itching after cesarean birth. *Nurs Womens Health.* 2015;19 (2):154–63.
20. Gail MH, Haneuse S. Power and sample size for multivariate logistic modeling of unmatched case-control studies. *Stat Methods Med Res.* 2019;28 (3):822–34.