

## Cross-Sectional Study for Seven Months to Assessing the Effect of Anesthesia during Labour in Iraq

Dr. Enas Falih Hassoon<sup>1</sup>, Dr. Haider Hussain Salman<sup>2</sup>, and Dr. Basim Mohammad Hussain<sup>3</sup>

<sup>1</sup>M.B.Ch.B. \ D.A. \ (Anesthetist), Iraqi Ministry of Health, Baghdad AL-Karkh Health Directorate, AL-Karkh Maternity Hospital, Baghdad, Iraq

<sup>2</sup>M.B.Ch.B. \ F.I.C.M.S. \ (Anaesthesia & Intensive Care), Anesthesiologist & Intensive Care Specialist Iraqi Ministry of Health, Samawa Health Office, Al-Hussain Teaching Hospital, Samawa, Iraq

<sup>3</sup>M.B.Ch.B. \ F.I.C.M.S. \ (Anaesthesia & Intensive Care), Anesthesiologist & Intensive Care Specialist Ministry of Health, Baghdad Medical office Al-Karkh, Al Karama Teaching Hospital, Baghdad, Iraq

**Abstract:** Epidural analgesia is a central nerve block technique achieved by injecting a local anesthetic near the nerves that transmit pain and is widely used as a form of pain relief during childbirth. In our current study, 210 patients from pregnant Iraqi women were collected and distributed into two groups (the first group who underwent epidural anaesthesia for 120 patients and the second group without analgesia for 90 patients). This study aimed to assessing the effect of anaesthesia during labor in Iraq by conducting a cross-sectional study for a period of 7 months (6-6-2019 to 10-1-2020), and demographic information and data were collected from different hospitals in Iraq. The complications were studied for the two groups, and the effect of epidural analgesia on pregnant women was known. The results were found in this study 210 women pregnant distributed as used Epidural analgesia for 120 women and without analgesia for 90 women, age of study between 30 to 40 years with BMI 25 TO 36 kg/m<sup>2</sup>, Nature of the adjuvant used (Fentanyl FOR 112 patients with 93.3% and Morphine for eight patients with 3.0%. The assessment of pain outcomes for patients according to the VAS scale was relied upon, and high levels of pain were found in patients who did not undergo anaesthesia. As for pregnant women without analgesia, the study revealed an inverse relationship with epidural anaesthesia (r correlation -0.65).

**Keywords:** Anesthesia, Labour, Epidural, Effect, Dizziness.

### INTRODUCTION

Anesthesia-related complications are the seventh leading cause of pregnancy-related mortality in the United States, accounting for 1.8% of all pregnancy-related deaths [Pallasmaa, N. *et al.*, 2008; Panchal, S. *et al.*, 2001]. Although there is still room for improvement, these figures represent a drastic reduction in the number of anesthesia-related deaths over the last few decades. As the overall maternal mortality has declined [Martin, J.A. *et al.*, 2007], maternal morbidity has become increasingly important. It has been recognized that maternal morbidity is a more appropriate and useful indicator of obstetric care quality than mortality.<sup>2</sup>For example [Martin, J.A. *et al.*, 2002; Bucklin, B.A. *et al.*, 2005; Villar, J. *et al.*, 2006], investigators found that the incidence of serious complications of obstetric epidural analgesia did not change over a 17-yr study period.

Additionally, it has been shown that the rate of pregnancy-related neurological complications has not changed substantially over the years [Betrán, A.P. *et al.*, 2007; Rust, G. *et al.*, 2004; Kaufman, I. *et al.*, 2003]. The role of anesthesia in these neurological complications is the subject of active research. Such information may lead to improved protocols for obstetric care and better clinical outcomes for patients. [Glance, L.G. *et al.*, 2007]

Anesthesia is one of the most important discoveries in human history. This was the engine

for the progress of medicine in the past centuries. However, in our desire to include everything, we intervene in a natural and wonderful process, childbirth. [Majoko, F. *et al.*, 2004]

This review analyzes, from the point of view of the scientific evidence, what are the effects of anesthesia on the duration and outcome of labor; [Hadfield, R.M. *et al.*, 2008; Romano, P.S. *et al.*, 2005]

Several observational studies have shown a strong association between axonal analgesia and surgical conduction [Yasmeen, S. *et al.*, 2006]. These works were based on dividing patients into groups according to the patient's choice regarding the method of analgesia. Those who chose epidural analgesia had a higher incidence of instrumental delivery and caesarean section compared to those who chose other analgesic methods (e.g., the parenteral route). [Miller, M.R. *et al.*, 2003]

Epidural and spinal anesthesia are also used, although sometimes it is necessary to resort to general anesthesia, and in this case, the choice of method of anesthesia depends on the physical conditions of the child and mother.

Having an epidural catheter is associated with a risk for pregnant women who take medications that affect blood clotting or who have other blood clotting disorders. [West, A.N. *et al.*, 2008]

Complications or side effects can occur, and the most common complications are arterial hypotension and headache. The most serious complications are a toxic reaction to local anesthesia, respiratory arrest, and neurological disturbances. [Zhan, C. *et al.*, 2003].

## MATERIALS AND METHODS

A cross-sectional study was conducted on pregnant women in Iraq. Information and demographic data were collected from different hospitals in Iraq, where 210 patients were collected and distributed for two groups.

The first group included patients who underwent epidural anesthesia for 120 patients, and the second group included 90 patients. Patients who did not undergo epidural anesthesia.

The primary information related to the patients was collected, which included (height and weight - age - body mass index, and Nature of the adjuvant used)

In this study, the efficacy and safety of epidural analgesics was evaluated in women and child, compared to no epidural or no labor pain relief.

Pain relief is important for women in labour. Pharmacological approaches to pain relief include opioid injections and local analgesia with an epidural. An epidural is widely used to relieve pain during childbirth and involves injecting a local anesthetic into the lower back near the nerves that transmit pain.

Epidural solutions are given by electric syringe, or Bolus controlled by the patient.

Low concentrations of the local anesthetic, when taken in combination with an opioid, allow the woman to maintain the ability to move and actively participate in labor.

The sensation of pain is a subjective, subjective experience that is influenced by many factors, including cultural, situational, and psychological. In this study, patients' pain outcomes were assessed by the VAS scale.

All ethical approvals required to conduct this study were obtained, and the study period was for seven months (6-6-2019 to 10-1-2020).

A statistical analysis program was used to find out the type of statistical relationships in this study, and Microsoft Excel 2013

## RESULTS

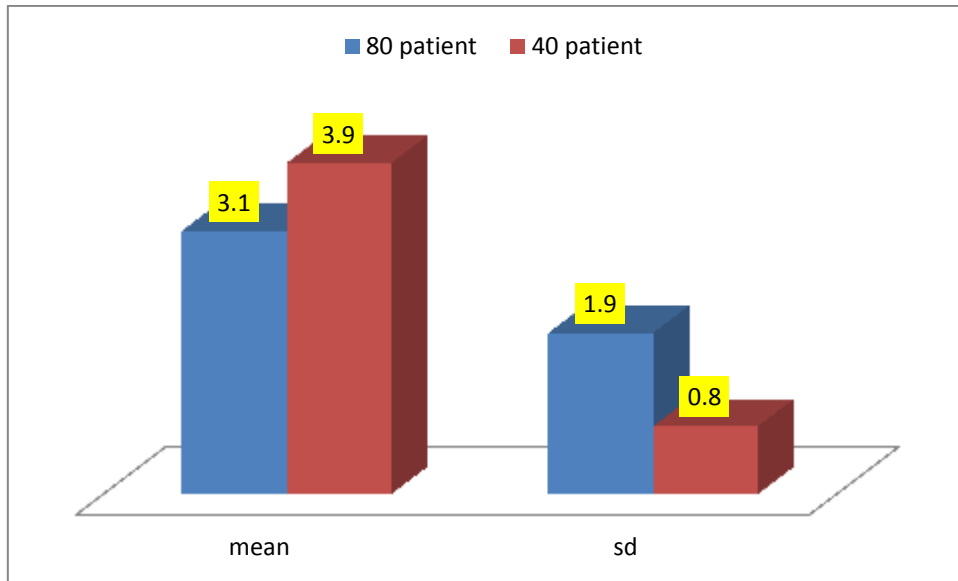
**Table 1:** Main demographic result of patients study

	<b>under analgesia , N=120</b>	<b>without analgesia, N=90</b>	<b>P-value</b>
Age (Mean±SD) years	35.5±3.6	34.4±3.9	0.55
BMI (Mean±SD)	31.3±4.23	29.5±3.7	0.45
comorbidities			
Hypertension	39 (32.5)	40 (44.4)	0.74
Diabetes	30 (25)	20 (22.2)	0.04
Renal failure	28 (23.3)	15 (16.6)	0.01
Heart disease	19 (15.8)	8 (8.8)	0.01
Others	4 (3.33)	7 (7.77)	0.34
Level Education			
Low	30 (25)	20 (22.2)	0.001
Medium	60 (50)	60 (66.6)	0.00
High	30 (25)	10 (11.1)	0.005

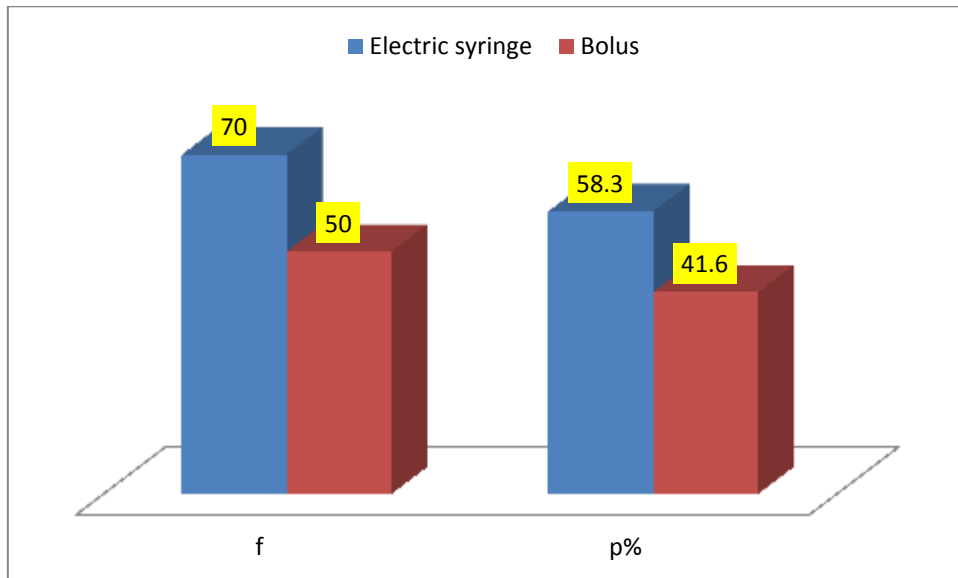
**Table 2:** Results related to anesthesia according to the Method of administration Adjuvant used and Local anaesthetics

<b>Methods of administration</b>	<b>Numbers (N = 120)</b>	<b>Percentages (%)</b>
Local anaesthetics		
Bupivacaine	120	100.0
Adjuvant used?		
Yes	110	91.6
No	10	9.4
Nature of the adjuvant used	N = 33	
Fentanyl	112	93.3

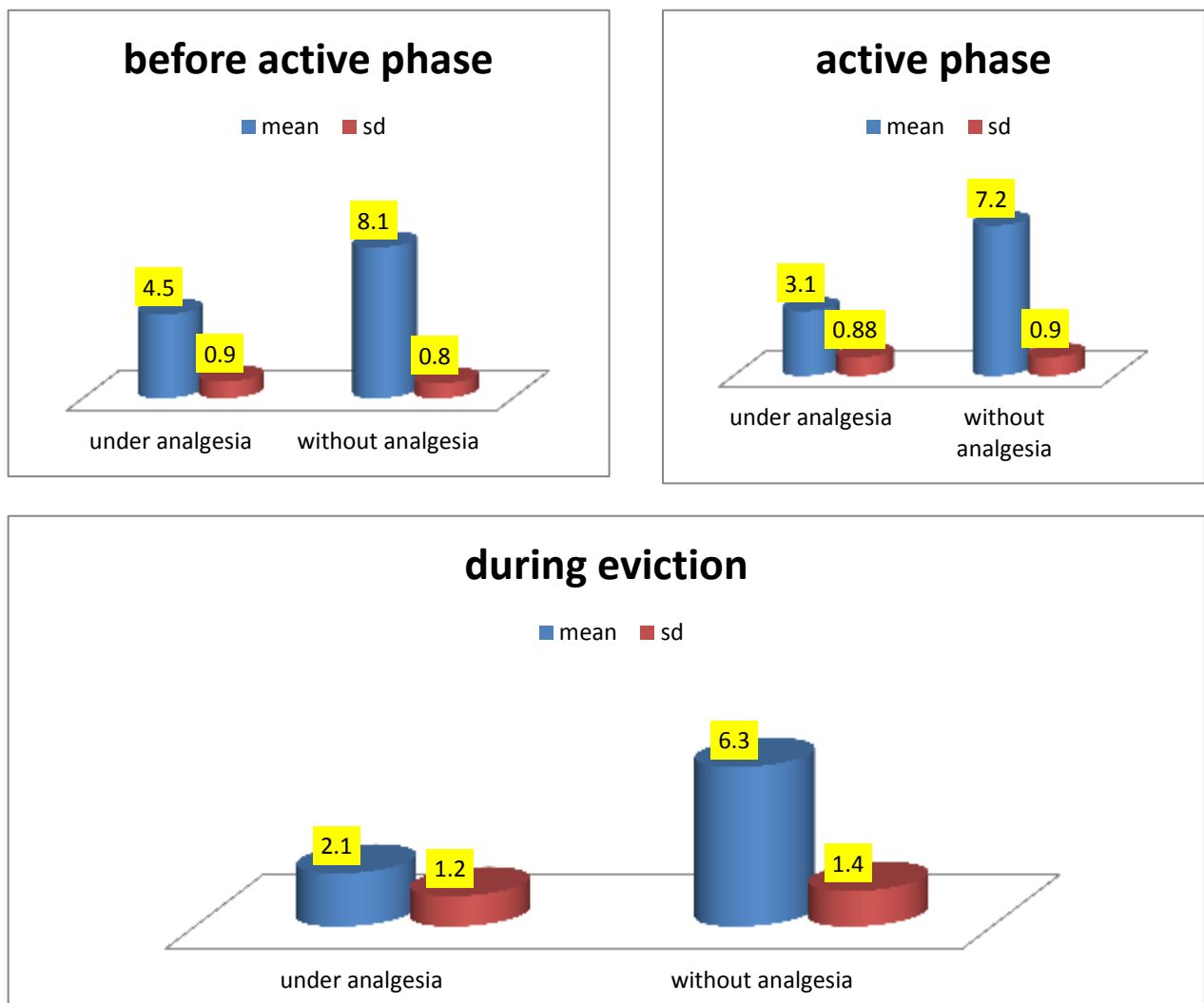
Morphine	8	3.0
----------	---	-----



**Fig 1:** Results related to anaesthesia according to Time from onset of analgesia to delivery



**Fig 2:** Pain results of patients according to the VAS scale



**Fig 3:** Results related to anaesthesia according to the Method of administration

**Table 3:** Distribution of Complication Profile os study groups

Variable	under analgesia , N=15	without analgesia, N=50	P-value
Itching	3	13	0.01
Dizziness	2	12	0.05
Pulmonary complications	1	5	0.05
Cardiac complications	1	4	0.001
Central nervous system	1	7	0.001
Pain	2	9	0.001

**Table 4:** person correlation between under analgesia and without analgesia related to pain

Variable	Epidural anesthesia	under analgesia	without analgesia
R	1.00	0.23	-0.65
SIG	--	0.34	0.004
N	210	120	90

**Table 5:** logistic regression to analysis risk factors on the patient of study

Variable	OR 95%	P value
Age	0.99 (0.5-1.2)	0.45
Pulmonary complications	1.2 (0.4-1.6)	0.01
without analgesia	1.4 (1.1-1.8)	0.001
Pain	1.45 (0.87-1.9)	0.003
Charlson Comorbidity Index	1.23 (0.88-1.55)	0.06

## DISCUSSION

In our current study, 210 patients from pregnant Iraqi women were collected and distributed into two groups (the first group who underwent epidural anaesthesia for 120 patients and the second group without analgesia for 90 patients)

In this study, the type of complications that women are exposed to were identified in addition to assessing the effect of anaesthesia during labor.

-Women in labor who have not undergone adequate training in psychological prevention showing signs of weakness, and imbalance in the nervous system, especially at the age of 30-40 years. In such cases, antispasmodics are used at the beginning of the active phase of the first stage of labor (when 2-3 cm of cervical dilatation) in order to prevent and only partially eliminate labor pains, and it is important to wait for regular, steady contractions.

With the development of labor activity, antispasmodics do not affect the strength and frequency of contractions, and antispasmodics help to cope with the opening of the cervix, relieve smooth muscle spasms, reduce the duration of the first stage of labor and, in addition, do not have a negative effect on the fetus.

Epidural anaesthesia may reduce labor pain more effectively than any other form of pain relief, and statistical analysis of person correlation between under analgesia and without analgesia related to pain found a positive correlation between local anaesthetics and pregnant women's satisfaction with pain relief.

However, some women who receive an epidural instead of opioid medication may be more likely to have an assisted vaginal delivery.

As for pregnant women without analgesia, the study revealed an inverse relationship with epidural anaesthesia (r correlation -0.65.)

Our current study revealed that epidural analgesia may be more effective in reducing pain during labor and increasing maternal satisfaction with pain relief than non-epidural methods. Although, in general, there appears to be an increase in

assisted vaginal deliveries when women undergo epidural analgesia, subsequent subgroup analysis has shown that this effect was not seen in recent studies (after 2005), suggesting that recent uses of epidural analgesia in labor, there is a positive and direct relationship with the satisfaction of pregnant women.

Epidural analgesia had no effect on complications and pain and did not appear to have an immediate effect on the condition of the newborn as determined by Apgar scores or ICU admission.

## CONCLUSION

In general, statistical evidence and clear differences in surgical delivery were obtained in women who received epidural anaesthesia from labor. This may be due to differences in study design and conduct and different situations. The current study demonstrated the frequency of complications in women without analgesia.

We conclude from this study that epidural anaesthesia reduces high blood pressure, hyperventilation in the lungs, and adrenaline levels, which has a calming effect on the body. Epidural anaesthesia facilitates the opening of the cervix and reduces shock during a premature birth.

## REFERENCES

1. Pallasmaa, N., Ekblad, U. and Gissler, M. "Severe maternal morbidity and the mode of delivery." *Acta obstetrica et gynecologica Scandinavica* 87.6 (2008): 662-668.
2. Panchal, S., Arria, A.M. and Labhsetwar, S.A. "Maternal mortality during hospital admission for delivery: a retrospective analysis using a state-maintained database." *Anesthesia & Analgesia* 93.1 (2001): 134-141.
3. Martin, J.A., Hamilton, B.E., Sutton, P.D., Ventura, S.J., Menacker, F., Kirmeyer, S. and Munson, M.L. "Births: final data for 2005." *National vital statistics reports* 56 (2007): 1-104.
4. Martin, J.A., Hamilton, B.E., Ventura, S.J., Menacker, F., Park, M.M. and Sutton, P.D. "Births: final data for 2001." *National vital statistics reports* 51.2 (2002):1-103.

5. Bucklin, B.A., Hawkins, J.L., Anderson, J.R. and Ullrich, F.A. "Obstetric anesthesia workforce survey: twenty-year update." *The Journal of the American Society of Anesthesiologists* 103.3 (2005): 645-653.
6. Villar, J., Valladares, E., Wojdyla, D., Zavaleta, N., Carroli, G., Velazco, A., Shah, A., Campodónico, L., Bataglia, V., Faundes, A., Langer, A., Narváez, A., Donner, A., Romero, M., Reynoso, S., de Pádua, K.S., Giordano, D., Kublickas, M. and Acosta, A. "WHO 2005 global survey on maternal and perinatal health research group Caesarean delivery rates and pregnancy outcomes: the 2005 WHO global survey on maternal and perinatal health in Latin America." *Lancet* 367 (2006): 1819-29.
7. Betrán, A.P., Meriáldi, M., Lauer, J.A., Bing-Shun, W., Thomas, J., Van Look, P. and Wagner, M. "Rates of caesarean section: analysis of global, regional and national estimates." *Paediatric and perinatal epidemiology* 21.2 (2007): 98-113.
8. Rust, G., Nembhard, W.N., Nichols, M., Omole, F., Minor, P., Barosso, G. and Mayberry, R. "Racial and ethnic disparities in the provision of epidural analgesia to Georgia Medicaid beneficiaries during labor and delivery." *American journal of obstetrics and gynecology* 191.2 (2004): 456-462.
9. Kaufman, I., Bondy, R. and Benjamin, A. "Peripartum cardiomyopathy and thromboembolism; anesthetic management and clinical course of an obese, diabetic patient." *Canadian journal of anaesthesia* 50.2 (2003): 161-165.
10. Glance, L.G., Wissler, R., Glantz, C., Osler, T.M., Mukamel, D.B. and Dick, A.W. "Racial differences in the use of epidural analgesia for labor." *The Journal of the American Society of Anesthesiologists* 106.1 (2007): 19-25.
11. Majoko, F., Nyström, L., Munjanja, S.P., Mason, E. and Lindmark, G. "Relation of parity to pregnancy outcome in a rural community in Zimbabwe." *African Journal of Reproductive Health* 8 (2004): 198-206.
12. Hadfield, R.M., Lain, S.J., Cameron, C.A., Bell, J.C., Morris, J.M. and Roberts, C.L. "The prevalence of maternal medical conditions during pregnancy and a validation of their reporting in hospital discharge data." *Australian and New Zealand Journal of Obstetrics and Gynaecology* 48.1 (2008): 78-82.
13. Romano, P.S., Yasmeen, S., Schembri, M.E., Keyzer, J.M. and Gilbert, W.M. "Coding of perineal lacerations and other complications of obstetric care in hospital discharge data." *Obstetrics & Gynecology* 106.4 (2005): 717-725.
14. Yasmeen, S., Romano, P.S., Schembri, M.E., Keyzer, J.M. and Gilbert, W.M. "Accuracy of obstetric diagnoses and procedures in hospital discharge data." *American journal of obstetrics and gynecology* 194.4 (2006): 992-1001.
15. Miller, M.R., Elixhauser, A. and Zhan, C. "Patient safety events during pediatric hospitalizations." *Pediatrics* 111.6 (2003): 1358-1366.
16. West, A.N., Weeks, W.B. and Bagian, J.P. "Rare adverse medical events in VA inpatient care: reliability limits to using patient safety indicators as performance measures." *Health Services Research* 43.1p1 (2008): 249-266.
17. Zhan, C. and Miller, M.R. "Excess length of stay, charges, and mortality attributable to medical injuries during hospitalization." *Jama* 290.14 (2003): 1868-1874.

**Source of support:** Nil; **Conflict of interest:** Nil.

**Cite this article as:**

Hassoon, E.F., Salman, H.H. and Hussain, B.M. "Cross-Sectional Study for Seven Months to Assessing the Effect of Anesthesia during Labour in Iraq." *Sarcouncil Journal of Internal Medicine and Public Health* 1.4 (2022): pp 14-19.