

The Comparison of the Effectiveness of Paracervical Blocks with Intracervical Blocks on Pain Management in Dilated Abortus Inkompletus Curettage

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Abstract:

To measure how much influence Paracervical Block as a local anaesthetic is compared with the intracervical block in the management of pain, dilatation and curettage in patients with an incomplete abortion. This study is an experimental study with a randomized clinical trial design that compares the effectiveness of paracervical blocks and intracervical blocks as local anaesthetics in the management of dilated pain and curettage in patients with an incomplete abortion. There was no difference in age distribution, education, parity and history of abortion between the two groups. There was no significant difference in the mean systolic and diastolic blood pressures before curettage, after curettage and 30 minutes after curettage in both groups. There was no significant difference in the mean pulse frequency before curettage, after curettage and 30 minutes after curettage in the Paracervical Block group ($p = 0.830$), but there was a significant difference in the intracervical block group ($p = 0.032$). There were no side effects between the two groups. There was a difference in the degree of pain between Paracervical Block and Intracervical Block as a local anaesthetic in the management of pain during dilation and curettage procedures in patients with incomplete abortion ($p = 0.000$). The paracervical block has shown greater effectiveness in pain management during dilation and curettage procedures in incomplete abortion than the intracervical block. Both techniques are safe to perform as local anaesthetics in dilation and curettage in incomplete abortion.

Keyword: Incomplete Abortion, Pain, Paracervical Block, Intracervical Block.

1. INTRODUCTION

Not all pregnancies can go well, of all conceptions only about 50-60% can pass 20 weeks of gestation, and 75% of abortions occur due to implantation failure [1]. The cause of abortion itself is not fully known, according to Hempstock, about 40% of cases of abortion have no known cause, especially recurrent abortions. Meanwhile, other cases are associated with chromosomal abnormalities, endocrine factors, infectious factors, immunological factors and uterine anatomical abnormalities [1; 2]. In Indonesia, it is estimated that there are 5 million pregnancies per year, of which 10% -15% (500,000 to 750,000) experience abortions every year. In all cases of abortion Jauniaux and Burton found two-thirds of cases (66%) had placentation defects.

Meanwhile, abnormalities of the placental villi in 50% -60% of abortion cases [1; 2; 3]. The principle of management of abortion is the emptying of the remaining

conception from the uterine cavity, one way by dilatation and curettage. Pain in the abortion occurs due to tissue damage in the uterine cavity and uterine contractions to expel the product of conception. This pain increases or returns when the uterine cavity is emptied [4; 5; 6].

Recent studies report, 97% of women feel pain ranging from mild to severe intensity during and after the abortion. Measures to prevent or relieve pain associated with this abortion can be done with general anaesthesia or local anaesthesia [7; 8]. General anaesthesia causes loss of consciousness and loss of feeling and sensation. The use of general anaesthesia, including intravenous anaesthesia, is widely used routinely in abortion curettage, but general anaesthesia is closely associated with increased bleeding, uterine trauma, and death, due to hypoventilation and respiratory depression. A significantly higher incidence of bleeding, uterine perforation, intra-abdominal bleeding, and wounds to the cervix under general anaesthesia than with local anaesthetics [3; 9]. Survey conducted by the National Abortion Federation at clinics in the United States found only 10% used general anaesthesia and 58% used local anaesthetics with or without oral premedication and 32% used intravenous sedation with local anaesthetics [10; 11].

The use of local anaesthetics such as paracervical block acts on the peripheral nerve endings surrounding the cervix and cervical canal. In contrast, intracervical block acts as a mechanical infiltration anaesthetic, thereby inhibiting nerve impulses, and this action will significantly reduce pain due to cervical stretching or movements of the cannula [11; 12]. Paracervical block used to be often used in association with pain during one labour, but many reports suggest the occurrence of bradycardia in infants although only temporarily. In incomplete abortion dilatation and curettage, a paracervical block is ideal, although care must be taken not to pierce the blood vessels so that the drug enters the blood circulation, whereas intracervical block is safer [4; 9; 11]. Based on the background above, the authors wish to conduct research to determine the significant differences in the effectiveness of paracervical and intracervical blocks in overcoming the pain of dilation and curettage in incomplete abortion.

2. LITERATURE REVIEW

Abortion is the end of a pregnancy before the fetus can live outside the womb, or before the pregnancy is 20 weeks (counting from the first day of the last menstrual period), or the fetus weighs less than 500 grams [1]. Several other definitions of abortion, among others, abortion as the termination of pregnancy before the gestational age reaches 16 weeks in which placentation has not been completed [1; 13]. Eastman stated that abortion is a condition in which a pregnancy is terminated when the fetus is unable to survive alone outside the uterus, weighing between 400-1000 grams or when gestational age is less than 28 weeks [1; 13]. In 1977 WHO defined abortion as the release of the fetus. From a uterus weighing less than 500 g, or 20-22 weeks' gestation [13; 14].

In Indonesia, it is estimated that spontaneous abortion occurs in about 10-15% of pregnancies. According to official WHO data, abortion is reported to occur in 10% of all pregnancies. More than 80% of spontaneous abortions occur in the first trimester of pregnancy, and this rate decreases markedly after that [15; 16]. At least half of spontaneous abortions that occur in the first trimester are due to chromosomal abnormalities, and these causes are markedly decreased after that. If the first abortion is due to a chromosomal abnormality, the probability of a second abortion for the same reason increases to 80% [17; 18]. Chromosomal abnormalities more often cause spontaneous abortion experienced in the first trimester of pregnancy (50-60%), followed by endocrine factors (10-15%), incompetent cervical factors (8-15%), immunology and infections (3-5%), as well as uterine abnormalities (1-3%) [19; 20]. A spontaneous abortion that occurs in the second trimester is more often caused by maternal factors such as increased parity, increasing maternal age, poor maternal general and nutritional conditions, trauma factors, toxic factors and other conditions [18; 21]. The clinical-stage of abortion is divided into 4 parts, such as: a) Imminent Abortion (Threatened Abortion); b) Inevitable Abortion; c) Complete Abortion, and d) Complete Abortion [1; 12; 13; 14].

Management of Incomplete Abortion - In incomplete abortion, the excretion of the remaining products of conception must be done immediately, with dilation and curettage measures. This procedure is a series of processes that release tissue adhering to the wall of the uterine cavity. One way is to dilate the cervix with fresh plugs and release the tissue with a curette spoon that is inserted into the uterine cavity. The curette spoon will remove the tissue using a systematic scraping technique [22]. Curettage techniques can be done using a sharp curettage spoon or suction curettage. The Sims speculum was inserted, and antiseptic with povidone-iodine was placed on the cervix, then the anterior cervix was clamped with a tenaculum. If necessary, dilation of the cervix with Hegar plugs can be performed until a curette spoon or suction cannula of the desired diameter can be inserted. Before the curettage spoon or cannula is inserted to perform curettage, conduct a sondage to measure the depth of the uterus and the inclination of the uterine cavity, then the curette spoon or cannula is moved towards the fundus and back towards the cervical ostium, this is done rotating clockwise to cover the entire surface of the uterine cavity. Uterine perforation may occur, so it is best if this procedure is done by holding a Hegar spark plug or a curette spoon using only the thumb and index finger. The curettage procedure can lead to complications such as uterine perforation, cervical laceration, bleeding, and infection [23].

Pain is an experience of unpleasant feelings and emotions related to actual or potential damage to tissue. Every human being responds to pain through previous experiences in his life [24; 25]. Pain in the organs of the pelvic area, especially in the genital tract area, is transmitted through the sympathetic nervous system and partly through the parasympathetic system. The action of the sympathetic nerves causes contraction and vasoconstriction. On the other hand, the action of the parasympathetic nerves prevents contraction and causes vasodilation. Hence its effect on the uterus, namely the sympathetic nerve maintains uterine tone, whereas the parasympathetic nerve prevents

uterine contractions, thus inhibiting uterine tone [26; 27]. The effects of these two types of innervation cause intermittent uterine contractions. The series of sympathetic nerves in the pelvic region consists of three sequences, namely the sacral chain, the superior hypogastric plexus and the inferior hypogastric plexus [11; 25; 27]. The sympathetic nervous system enters the pelvic cavity as the superior hypogastric plexus (presacral nerve) and through the promontory continues downward as the inferior hypogastric nerve (inferior hypogastric plexus) and Frankenhauser's plexus (uterovaginal plexus) [28; 29]. Pain that is transmitted through the superior hypogastric plexus is transmitted through the lower thoracic, and lumbar chains, to then be transmitted through the spinal nerves to the brain. The superior hypogastric plexus receives most of the duct pain from the internal genital tract, especially the uterus and cervix [30; 31].

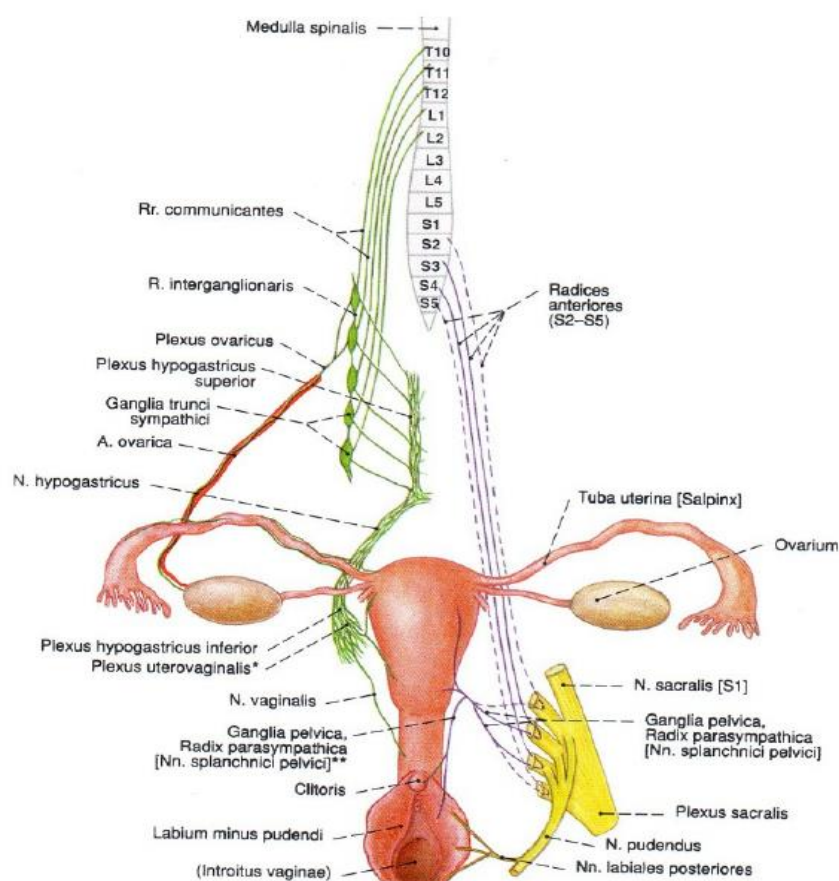


Figure 1 Uterus and Vaginal Innervation (Green Sympathetic Nervous System, Yellow Parasympathetic Nervous System) [28]

The parasympathetic nervous system is located in the pelvis on the left and right of the sacral os, which originates from the sacral nerve chains 2, 3 and 4, which then become the splanchnic nerves (nerves erigente) and join the Frankenhauser plexus. The Frankenhauser plexus consists of large and small ganglions located primarily at the base of the Sacro uterine ligament. In the Frankenhauser plexus, sympathetic and

parasympathetic fibres can be found. Paracervical block (PCB) is a local anaesthetic procedure by injecting an anaesthetic drug into the right and left lateral vaginal fornix into the paracervical tissue [32]. Many nerve block methods for pain management can be chosen, such as paracervical block, caudal block, lumbar sympathetic block, spinal block, epidural block T10 to L1 segment, T10 to L1 paravertebral block, 2, 3, 4 sacral nerve fibre blocks and pudendal block. PCB anaesthesia, blocking sensory nerve fibres as high as thoracic 10,11,12 and lumbar 1 [33; 34]. In curettage without paracervical block, will stimulate pain where the pain impulses follow the sensory nerve fibres accompanying the sympathetic nerve endings, through the paracervical region, inferior hypogastric plexus and superior hypogastric plexus to enter the lower lumbar and thoracic sympathetic chains to the ramus junction. Nerves T10, T11, T12 and L1, where they enter the dorsal spinal cord [31; 32; 33; 35].

This block reduces pain caused by uterine contractions and cervical stretching. The key is to block the transmission originating from the inferior hypogastric plexus known as the ganglion of the Frankenhauser plexus (uterovaginal plexus) which lies just lateral to the border of the cervix and uterus [34; 35]. The use of local anaesthetics, although considered safe compared to general anaesthesia, also carries a risk of death, and is associated with post-abortion and convulsion febrile, when a toxic dose of > 25 ml 2% lidocaine without epinephrine is administered via paracervical or pudendal blocks [36; 37]. Berger's Joint Program for Study of Abortion (JPSA) study reported that the incidence of seizures in abortion with local anaesthesia was 7 out of 19, 792 abortions using suction curettage or 3.5 per 10,000 abortions. Another study, 3 of 11,747 abortions with dilatation and second-trimester evacuation using the local anaesthetic lidocaine [38; 39]. Because of the risk of toxicity from paracervical block anaesthesia, the CDC in 1976 confirmed and determined that the maximum safe dose of lidocaine for preventing toxicity in the blood was 90-100 mg. Under these conditions, the total injection of lidocaine with a concentration of 1% (1g /100 ml = 10g /10 ml) was 10 ml, introduced as a protocol. After this regulation was introduced and implemented, no more convulsions were reported [40; 41; 42].

In the lithotomy position, apply antiseptic to the perineum and vagina. Using a Sims speculum, place two fingers of the right hand and point them directly toward the lateral fornix of the right vagina. Insert the Iowa Trumpet without a needle into the lateral fornix of the right vagina, and allow it to enter as far as the Iowa Trumpet can be inserted so that the tip can adhere to the mucosa of the farthest lateral vaginal fornix. Point the Iowa Trumpet so that it can reach the 3 o'clock position. Iowa Trumpet to direct the needle and the depth of needle insertion to reduce the risk of injury to the vagina. When the Iowa Trumpet is in position, insert the needle through the Iowa Trumpet. The tip of the needle passes 5 mm from the tip of the Iowa Trumpet and reaches the paracervical tissue. Before injection, perform an aspiration to ensure that blood vessel is not involved. Then slowly inject 2.5 ml of local anaesthetic. Repeat the above procedure at the 5 o'clock position. Then the action is transferred to the reverse side. Change the hand used, so that the left-hand lies in the vagina when injecting into the patient's left side. Repeat the procedure, injecting 2.5 ml of local anesthetic at the 7 and 9 o'clock positions [43; 44; 45; 46].

Intracervical block (ICB) is a local anaesthetic procedure by injecting an anaesthetic directly into the cervix [11; 47]. In contrast to Paracervical Block, which acts by blocking peripheral nerves, intracervical block acts as an infiltrative anaesthetic by inflating the tissue, causing mechanical disturbances in nerve impulses [11]. In the lithotomy position, apply antiseptic to the perineum and vagina. Using a Sims speculum, point the syringe so that it reaches the cervix at 3 o'clock with a depth of 25-35 mm. Before injection, perform an aspiration to ensure that blood vessel is not involved. Then slowly inject 2.5 ml of local anaesthetic. Repeat the above procedure at 6, 9 and 12 o'clock positions [11; 45].

3. METHOD

This study is an experimental study with a randomized clinical trial design which was conducted to measure how much influence Paracervical Block as a local anaesthetic in the management of dilatation and curettage pain in patients with incomplete abortion, compared to the effect of the intracervical block as a local anaesthetic in the treatment. Pain in dilation and curettage in patients with an incomplete abortion. This research was conducted and will be carried out by researchers at several teaching hospitals in the Obstetrics and Gynecology Division *FK4JSU*, including *RSUP H. Adam Malik*, *RS. Haji Medan*, *RS. PTPN II Tobacco Deli Medan*, *RS. Sundari*, *RS. KESDAM Tk. II BB Medan* and *Pirngadi Hospital Medan*. The research time is planned to start in October 2019 until the number of samples is met. The populations in this study were all patients diagnosed with incomplete abortion, and a curettage would be performed at *RSUP H. Adam Malik*, *RS. Haji Medan*, *RS. PTPN II Tobacco Deli Medan*, *RS. Sundari*, *RS. KESDAM Tk. II BB Medan*, *Pirngadi Hospital Medan* and willing to take part in the research. So the estimated sample size for each group is $29.93 = 30$ people.

The analysis was performed using statistical tests with a significance level of $p < 0.05$. The statistical tests used in this study were the Chi-Square test, One Way Anova test, and independent T-test. Chi-Square test was used to assess age distribution, education level, parity, history of abortion, and to assess the distribution of pain degrees during dilation and curettage procedures. The One Way Anova test was used to assess the distribution of mean systolic blood pressure, diastolic blood pressure, and pulse rate during dilation and curettage procedures. Independent T-test was used to assess the ratio of mean systolic blood pressure, diastolic blood pressure, and pulse rate 30 minutes after the dilation and curettage procedure between local anaesthesia Paracervical Block and Intracervical Block. The research data were processed and analyzed using the statistical program SPSS ver. 15. This research was conducted on research subjects who have met the research criteria. In this regard, research subjects are asked for free consent in the form of informed consent, which explains the aims and objectives of the research and the advantages and disadvantages of participating in research. If there is a side effect on the research subject, treatment will be immediately carried out at the expense of the researcher. The FK-UKI Health Research Ethics Committee has approved the research proposal with No.60/Research Ethics/FK UKI/2019.

4. RESULT AND DISCUSSION

This study was divided into two groups, namely the Paraservical Block group and the intracervical group, each of which consisted of 30 people. With randomization, 30 people were included in the group that received Paracervical Block local anaesthesia, and 30 people were included in the group that received intracervical block local anaesthesia. During the dilation and curettage procedures, the time varies with the fastest time from 15 minutes to the longest 25 minutes. The research results are as follows:

Table 1 Distribution of Age, Education Level, Parity and Abortion History of Incomplete Abortion Patients who were Treated with Dilatation and Curettage with Paracervical Block and Intracervical Block Anesthesia

Characteristics	Paraservical Block		Intraservical Block		Total		Value of ρ^*
	N ₁ (30)	%	N ₂ (30)	%	N ₃ (30)	%	
1. Age (year)							
> 20	2	6,7	0	0	2	3,3	0,105
21 – 35	25	83,3	21	70	46	76,7	
> 35	3	10	9	30	12	20	
2. Education							
Primary	0	0	0	0	0	0	0,735
Junior High School	3	10	5	16,7	8	13,3	
Senior High School	21	70	20	66,7	41	98,3	
Higher Education	6	20	5	16,7	11	18,3	
3. Parity							
0-1	17	56,7	14	46,7	31	51,7	0,394
2-4	12	40	16	53,3	28	46,7	
≥ 5	1	3,3	0	0	1	1,7	
4. History of Abortus							
0	19	63,3	17	56,7	36	60	0,206
1	11	36,7	10	33,3	21	35	
≥ 2	0	0	0	10	3	5,0	

* Chi-Square test

The results of the largest age group in this study were 46 people (76.7%). By using the Chi-Square test, the value of $p = 0.105$ was obtained. It means that the age distribution of the two groups Paracervical Block and Intracervical Block did not show a significant difference ($p > 0.05$). The result of the highest education group in this study was SMA as many as 41 people (68.3%). By using the Chi-Square test, the value of $p = 0.735$ was obtained. It means that the level of education in the two groups of Paracervical Block and Intracervical Block did not show a significant difference ($p > 0.05$). The most parity group result in this study was the group with a parity of 0-1 as many as 31 people (51.7%). By using the Chi-Square test, the value of $p = 0.394$ was obtained. It means that the parity of the two groups Paracervical Block and Intracervical Block did not show a significant difference ($p > 0.05$). The group result with the highest history of abortion was the group with abortion history 0 as many as 36 people (60.0%). By using the Chi-Square test, the p-value was obtained = 0.206. It means that the history of abortion between the two groups Paracervical Block and Intracervical Block did not show a significant difference ($p > 0.05$).

Table 2 Distribution of Mean Systolic Blood Pressure during Dilatation and Curettage Procedures in Incomplete Abortion Patients with Paracervical Block and Intracervical Block Before Curettage, After Curettage and 30 Minutes After Curettage

Local Anestession Group	Mean Systolic Blood Pressure						Value of ρ*
	Before Curettage		After Curettage		30 Minutes after Curettage		
	mean (mmHg)	SB	mean (mmHg)	SB	mean (mmHg)	SB	
Praservical block (n ₁ =30)	112,90	9,665	113,90	11,862	113,67	8,503	0,923
Intraservical block (n ₂ =30)	113,47	9,926	118,60	10,197	115,03	6,228	0,081

* One Way Anova test

The results showed that the mean systolic BP before curettage was 112.90 (SB = 9.665), the mean systolic BP after curettage was 113.90 (SB = 11.862), and the mean systolic BP 30 minutes after curettage was 113.67 (SB = 8,503).). By using the One Way ANOVA statistical test, there was no significant difference in the mean systolic BP during the dilation and curettage procedure with Paracervical Block anaesthetic where the value of $p = 0.923$ ($p > 0.05$). The results showed that the mean systolic BP before curettage was 113.47 (SB = 9.926), the mean systolic BP after curettage was 118.60 (SB = 10.197), and the mean systolic BP 30 minutes after curettage was 115.03 (SB = 6.228).). By using the One Way ANOVA statistical test, there was no significant difference in the mean systolic BP during the dilation and curettage procedure with intracervical block local anaesthesia where the value of $p = 0.081$ ($p > 0.05$). Comparison of the mean systolic BP 30 minutes after curettage between Paracervical Block and intracervical block using the T-independent statistical test, the results showed that there was no significant difference in the mean systolic BP 30 minutes after curettage between the two groups of local anaesthetics used where the p -value = 0.480 ($p > 0.05$).

Table 3 Distribution of Mean Diastolic Blood Pressure during Dilatation and Curettage Procedures in Incomplete Abortion Patients with Paracervical Block and Intracervical Block Before Curettage, After Curettage and 30 Minutes After Curettage

Local Anestession Group	Mean Systolic Blood Pressure						Value of ρ^*
	Before Curettage		After Curettage		30 Minutes after Curettage		
	mean (mmHg)	SB	mean (mmHg)	SB	mean (mmHg)	SB	
Praservical block (n ₁ =30)	75,53	7,956	73,77	8,897	73,67	6,149	0,923
Intraservical block (n ₂ =30)	74,67	7,150	78,63	8,471	75,83	5,305	0,090

* One Way Anova test

The results showed that the mean Diastolic BP before curettage was 75.53 (SB = 7.956), the mean Diastolic BP after curettage was 73.77 (SB = 8.897), and the mean Diastolic BP 30 minutes after curettage was 73.67 (SB = 6.149).). By using the One Way ANOVA statistical test, there was no significant difference in the mean Diastolic BP during the dilation and curettage procedure with Paracervical Block local anaesthesia where the value of $p = 0.923$ ($p > 0.05$). The results showed that the mean Diastolic BP before curettage was 74.67 (SB = 7.150), the mean Diastolic BP after

curettage was 78.63 (SB = 8.471), and the mean Diastolic BP 30 minutes after curettage was 75.83 (SB = 5.305). By using the One Way ANOVA statistical test, there was no significant difference in the mean Diastolic BP during the dilation and curettage procedure with Paracervical Block local anaesthesia where the value of $p = 0.090$ ($p > 0.05$). Comparison of the mean Diastolic BP 30 minutes after curettage between Paracervical Block and Intracervical Block using the T-independent statistical test, the results showed that there was no significant difference in the mean Diastolic BP 30 minutes after curettage between the two groups of local anaesthesia used where the p -value = 0.149 ($p > 0.05$).

Table 4 Distribution of Mean Pulse Frequency during Dilation and Curettage Procedures in Incomplete Abortion Patients with Paracervical Block and Intracervical Block Before Curettage, After Curettage and 30 Minutes After Curettage

Local Anestession Group	Mean Systolic Blood Pressure						Value of ρ^*
	Before Curettage		After Curettage		30 Minutes after Curettage		
	mean (mmHg)	SB	mean (mmHg)	SB	mean (mmHg)	SB	
Praservical block (n ₁ =30)	87,43	14,175	88,90	11,862	87,13	9,449	0,830
Intraservical block (n ₂ =30)	86.53	5.244	89.70	7.207	85.53	6.318	0.032

* One Way Anova test

The results showed that in local anaesthesia, the mean pulse frequency before curettage was 87.43 (SB = 14.175), the mean pulse frequency after curettage was 88.90 (SB = 11.862), and the average pulse rate 30 minutes after curettage was 87.13 (SB = 9.449). By using the One Way ANOVA statistical test, there was no significant difference in the mean pulse frequency during the dilation and curettage procedure with Paracervical Block local anaesthesia where the value of $p = 0.830$ ($p > 0.05$). The results showed that in local anaesthesia, the mean pulse frequency before curettage was 86.53 (SB = 5,244), the mean pulse frequency after curettage was 89.70 (SB = 7.207), and the mean pulse rate 30 minutes after curettage was 85.53 (SB = 6.318). By using the One Way ANOVA statistical test, there was a significant difference in the mean pulse frequency during the dilation and curettage procedure with Paracervical Block local anaesthesia where the value of $p = 0.032$ ($p < 0.05$). Comparison of the mean pulse frequency 30 minutes after curettage between the paracervical block and intracervical block using the independent T statistical test, the results showed that there was no significant difference in the mean pulse frequency 30 minutes after curettage between the two groups of local anaesthesia used where the p -value = 0.444 ($p > 0.05$).

Table 5 Distribution of Side Effects during Dilation and Curettage Procedures in Incomplete Abortion Patients with Paracervical Block and Intracervical Block

Side Effects	Praservical block		Intraservical block	
	n ₁ (30)	%	n ₂ (30)	%
No Side Effects	30	100	30	100
With Side Effects	0	0	0	0
Total	30	100	30	100

*Chi-Square Test

The results showed that both Paracervical Block and Intracervical Block were not found to have any side effects during the dilation and curettage procedures. In the study, Agostini et al. Stated that no cardiovascular and central nervous system disorders were found in manual vacuum aspiration for abortion using Paracervical Block [32]. In the study, Mankowski et al. stated that there was no significant difference in side effects in the two groups. The Paracervical Block group had one person (0.75%) of vasovagal episodes, and one person (0.75%) had nausea and vomiting in the Intracervical Block group. There was no bleeding and toxic events [11]. In Allen et al.'s study, 6.66% of anxiety/anxiety was observed in abortions using local anaesthesia (51), whereas Mankowski et al.'s study found 10.6% when using Paracervical Block and Intra-Cervical Block [11].

Table 6 Distribution of Pain Degree during Dilation and Curettage Procedures in Incompatible Abortion Patients with Paracervical Bioc and Intracervical Block

Degree Of Pain	Praservical block		Intraservical block		Value of P*
	n ₁ (30)	%	n ₂ (30)	%	
Light	30	100	17	56,7	0,000
Moderate	0	0	13	43,3	
Weight	0	0	0	0	
Total	30	100	30	100	

*Chi-Square Test

The results showed that the degree of mild pain was mostly found in the two groups of local anaesthetics during the dilation and curettage procedure, wherein the Paracervical Block group there were all 30 people (100%). In contrast, in the intracervical block group, there were 17 people (56.7%), The degree of pain was moderate in local anaesthesia in Intra cervical block as many as 13 people (43.3%). There was no severe degree of pain in the two groups of local anaesthetics in either Paracervical Block or Intracervical Block. By using the Chi-Square statistical test, there was a significant difference in the degree of pain during the dilation and curettage procedure between local anaesthesia Paracervical Block and intracervical block where the value of $p = 0.000$ ($p < 0.05$).

5. CONCLUSION

There was no significant difference in the mean systolic and diastolic BP during the dilatation and curettage procedures with local anaesthesia with paracervical block and intracervical block. There was no significant difference in the mean pulse frequency during dilatation and curettage procedures with Paracervical Block local anaesthesia. There was a significant difference in the mean pulse frequency during dilation and curettage procedures with intracervical block local anaesthesia. There were no side effects during the dilatation and curettage procedures with local anaesthesia. Paracervical Block or Intracervical Block. There was no significant difference in the mean systolic BP, diastolic BP and pulse frequency at 30 minutes after curettage between the two groups of local anaesthetics used. There is a significant difference in the degree of pain between Paracervical Block and Intracervical Block as a local anaesthetic in the management of pain during dilation and curettage procedures in patients with an incomplete abortion. Local anaesthesia Paracervical block and intracervical block can be used in the management of pain during dilation and curettage procedures in patients with incompatible abortion. Paracervical block and intracervical block local anaesthesia can be used as a standard procedure for dilatation and curettage in incompatible abortion patients.

REFERENCES

- [1] Putra, Ridwan A., et al. "Oxytocin 10 IU as Prophylactic for Uterine Atony: a Randomized Clinical Trial." *Indonesian Journal of Obstetrics and Gynecology* (2019): 170-178.
- [2] Agenor, A., & Bhattacharya, S. (2015). Infertility and miscarriage: common pathways in manifestation and management. *Women's health*, 11(4), 527-541.
- [3] O'Connell, K., Jones, H. E., Simon, M., Saporta, V., Paul, M., & Lichtenberg, E. S. (2009). First-trimester surgical abortion practices: a survey of National Abortion Federation members. *Contraception*, 79(5), 385-392.
- [4] Debby, A., Golan, A., Sadan, O., Rotmensch, S., & Malinger, G. (2008). Sonographic characteristics of the uterine cavity following first-trimester uterine evacuation. *Ultrasound in Obstetrics and Gynecology: The Official Journal of the International Society of Ultrasound in Obstetrics and Gynecology*, 31(5), 555-559.
- [5] Uysal, F., Uysal, A., & Adam, G. (2013). Cesarean scar pregnancy: Diagnosis, management, and follow-up. *Journal of Ultrasound in Medicine*, 32(7), 1295-1300.
- [6] Reddy, R. (2017). Intramyometrial gestation: A rare localization of ectopic pregnancy. *Tropical Journal of Obstetrics and Gynaecology*, 34(1), 73-75.
- [7] Tangsiriwatthana, T., Sangkomkamhang, U. S., Lumbiganon, P., & Laopaiboon, M. (2013). Paracervical local anaesthesia for cervical dilatation and uterine intervention. *Cochrane Database of Systematic Reviews*, (9).

- [8] Suliman, S., Ericksen, T., Labuschgne, P., De Wit, R., Stein, D. J., & Seedat, S. (2007). Comparison of pain, cortisol levels, and psychological distress in women undergoing surgical termination of pregnancy under local anaesthesia versus intravenous sedation. *BMC psychiatry*, 7(1), 24.
- [9] Aaronson, J., & Goodman, S. (2014, October). Obstetric anesthesia: Not just for cesareans and labor. In *Seminars in perinatology* (Vol. 38, No. 6, pp. 378-385). WB Saunders..
- [10] Karasahin, K. E., Alanbay, I., Ercan, C. M., Mesten, Z., Simsek, C., & Başer, I. (2011). Lidocaine spray in addition to paracervical block reduces pain during first-trimester surgical abortion: a placebo-controlled clinical trial. *Contraception*, 83(4), 362-366.
- [11] Renner, R. M., Jensen, J. T., Nichols, M. D., & Edelman, A. B. (2010). Pain control in first-trimester surgical abortion: a systematic review of randomized controlled trials. *Contraception*, 81(5), 372-388.
- [12] Thiruvurul Santhoshini, R. (2013). *To Evaluate the Role of Gabapentin as Preemptive Analgesic in Patients Undergoing Total Abdominal Hysterectomy Under Spinal Anaesthesia* (Doctoral dissertation, Madras Medical College, Chennai).
- [13] Okonofua, F. (2006). Abortion and maternal mortality in the developing world. *Journal of Obstetrics and Gynaecology Canada*, 28(11), 974-979..
- [14] Mook-Kanamori, D. O., Steegers, E. A., Eilers, P. H., Raat, H., Hofman, A., & Jaddoe, V. W. (2010). Risk factors and outcomes associated with first-trimester fetal growth restriction. *Jama*, 303(6), 527-534.
- [15] Gardner, R. M., Nermell, B., Kippler, M., Grandér, M., Li, L., Ekström, E. C., ... & Vahter, M. (2011). Arsenic methylation efficiency increases during the first trimester of pregnancy independent of folate status. *Reproductive toxicology*, 31(2), 210-218.
- [16] Moro, P. L., Broder, K., Zheteyeva, Y., Revzina, N., Tepper, N., Kissin, D., ... & Singleton, J. A. (2011). Adverse events following administration to pregnant women of influenza A (H1N1) 2009 monovalent vaccine reported to the Vaccine Adverse Event Reporting System. *American journal of obstetrics and gynecology*, 205(5), 473-e1.
- [17] Suzumori, N., & Sugiura-Ogasawara, M. (2010). Genetic factors as a cause of miscarriage. *Current medicinal chemistry*, 17(29), 3431-3437.
- [18] Metwally, M., Ong, K. J., Ledger, W. L., & Li, T. C. (2008). Does high body mass index increase the risk of miscarriage after spontaneous and assisted conception? A meta-analysis of the evidence. *Fertility and sterility*, 90(3), 714-726.
- [19] Kumar, G., & Kumar, B. (2011). *Early pregnancy issues for the MRCOG and beyond*. Cambridge University Press.
- [20] Munroe, G. A., Campbell, M., Munroe, Z., Hanks, M., Burns, T., Chenier, T., & Lamas, L. (2011). Reproductive system. *Equine Clinical Medicine, Surgery, and Reproduction, Corringham Road: Manson Publishing*, 242-380.
- [21] May, P. A., & Gossage, J. P. (2011). Maternal risk factors for fetal alcohol spectrum disorders: not as simple as it might seem. *Alcohol Research & Health*, 34(1), 15.

- [22] Danby, F. W., Hazen, P. G., & Boer, J. (2015). New and traditional surgical approaches to hidradenitis suppurativa. *Journal of the American Academy of Dermatology*, 73(5), S62-S65.
- [23] White, K., Carroll, E., & Grossman, D. (2015). Complications from first-trimester aspiration abortion: a systematic review of the literature. *Contraception*, 92(5), 422-438.
- [24] Preis, M. A., & Kroener-Herwig, B. (2012). Empathy for pain: The effects of prior experience and sex. *European journal of pain*, 16(9), 1311-1319.
- [25] Cao, Y., Contreras-Huerta, L. S., McFadyen, J., & Cunningham, R. (2015). Racial bias in neural response to others' pain is reduced with other-race contact. *Cortex*, 70, 68-78.
- [26] Uvnäs-Moberg, K., Ekström-Bergström, A., Berg, M., Buckley, S., Pajalic, Z., Hadjigeorgiou, E., ... & Magistretti, C. M. (2019). Maternal plasma levels of oxytocin during physiological childbirth—a systematic review with implications for uterine contractions and central actions of oxytocin. *BMC pregnancy and childbirth*, 19(1), 285.
- [27] Nagel, C., Erber, R., Ille, N., von Lewinski, M., Aurich, J., Möstl, E., & Aurich, C. (2014). Parturition in horses is dominated by parasympathetic activity of the autonomous nervous system. *Theriogenology*, 82(1), 160-168.
- [28] Floor, F. P. (2017). Topographical Anatomy for Hysterectomy Procedures. *Hysterectomy: A Comprehensive Surgical Approach*, 37.
- [29] Brill, A. I., Rogers JR, R. M., & Gomel, V. (2018). Anatomy and surgical dissection 1 of the female pelvis. *Reconstructive and Reproductive Surgery in Gynecology: Two Volume Set*, 1.
- [30] Tournaire, M., & Theau-Yonneau, A. (2007). Complementary and alternative approaches to pain relief during labor. *Evidence-based complementary and alternative medicine*, 4.
- [31] Shoja, M. M., Sharma, A., Mirzayan, N., Groat, C., Watanabe, K., Loukas, M., & Shane Tubbs, R. (2013). Neuroanatomy of the female abdominopelvic region: a review with application to pelvic pain syndromes. *Clinical Anatomy*, 26(1), 66-76.
- [32] Naibaho, L., & Deliviana, E. (2020). Sexuality in Education Begins in The Home. *Jurnal Comunita Servizio*, 2(1), 254-264.
- [33] Wong, C. A. (2013). Current management of labor pain. *Pain in Women*, 109..
- [34] Hughey, S. B., Cole, J. H., Olson, T. F., & Rivera, V. A. (2019). Erector Spinae Plane Block for Peripartum Analgesia in a Patient with Tarlov Cysts. *Obstet Gynecol Cases Rev*, 6, 155.
- [35] Schu, S., Gulve, A., ElDabe, S., Baranidharan, G., Wolf, K., Demmel, W., ... & Wahlstedt, A. (2015). Spinal cord stimulation of the dorsal root ganglion for groin pain—a retrospective review. *Pain Practice*, 15(4), 293-299.
- [36] Brunnhoelzl, D., Hanania, A. N., Echeverria, A., Sunde, J., Tran, C., & Ludwig, M. (2020). Paracervical blocks facilitate timely brachytherapy amidst COVID-19. *Brachytherapy*.
- [37] Ireland, L. D., & Allen, R. H. (2016). Pain management for gynecologic procedures in the office. *Obstetrical & Gynecological Survey*, 71(2), 89-98.

- [38] Williams, H. R., Hardy-Fairbanks, A. J., Stockdale, C. K., & Radke, S. (2017). Management of vaginal wall perforation during a second trimester dilation and evacuation. *Proceedings in Obstetrics and Gynecology*, 7(3), 1-7.
- [39] Costescu, D., & Guilbert, É. (2018). No. 360-induced abortion: surgical abortion and second trimester medical methods. *Journal of Obstetrics and Gynaecology Canada*, 40(6), 750-783.
- [40] Bhavya, K. (2013). *A Comparative study of Low Dose Intrathecal Bupivacaine with Epidural Volume Expansion and Conventional Dose Spinal Anaesthesia in Caesarean Sections* (Doctoral dissertation, Thanjavur Medical College, Thanjavur).
- [41] Aruloli, M. (2012). *A Comparative Study to Evaluate the Efficacy of Dexmedetomidine and Clonidine in Epidural Anaesthesia with Ropivacaine for Lower Abdominal Surgeries* (Doctoral dissertation, Thanjavur Medical College, Thanjavur).
- [42] Simanjuntak, D. R., Naibaho, L & Pardede, S. (2019). Analysis of Nursing Quality Services. *Indian Journal of Public Health Research & Development*, 10(6), 1380-1384.
- [43] Weidmann, A. K., Al-Niaimi, F., & Lyon, C. C. (2014). Correction of skin contour defects in leaking stomas by filler injection: a novel approach for a difficult clinical problem. *Dermatology and therapy*, 4(2), 271-279.
- [44] Giuliano, E. A. (2008). Regional anesthesia as an adjunct for eyelid surgery in dogs. *Topics in companion animal medicine*, 23(1), 51-56.
- [45] Shlamovitz, G. Z., Windle, M. L., Raghavendra, M. M., & Lovato, L. M. (2016). Dorsal Penile Nerve Block.
- [46] Obi, A. O., Okafor, V. U., & Nnodi, P. I. (2011). Prospective randomized trial of spinal saddle block versus periprostatic lignocaine for anesthesia during transrectal prostate biopsy. *Urology*, 77(2), 280-285.
- [47] Sasmoko, L. N., Sormin (2019). Healthy Work Culture Stimulate Performance. *Indian Journal of Public Health Research & Development*, 10(6), 1385-1389.