International Journal of Clinical Obstetrics and Gynaecology

ISSN (P): 2522-6614
ISSN (E): 2522-6622

www.gynaecologyjournal.com
2018; 2(5): 4-7
Received: 27-07-2018
Accepted: 28-08-2018

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Effectivenss of Paracervical block for pain relief during labour: Randomised controlled study

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Abstract
Aim: To evaluate the potential benefit of Paracervical block for pain relief with 1%lignocaine during labour.
Materials and Methods: This study was carried out in Department of Obstetrics and Gynaecology in Rajah Muthiah Medical College and Hospital from 2016 to 2018 on 100 antenatal mother in active labour, after getting ethical clearance and written consent. Women fulfilling the inclusion criteria have been recruited in the study and control group. Women have been rando mised into study group (n=50) who will be receiving paracervical block and control group (n=50) who will not receive any medications for pain relief. Both groups are been observed and compared for pain relief during first and second stage of labour and the pain intensity was recorded by visual analogue scale starting at 3cm dilation in both control and study group, in study group after paracerviacl block vas is recorded 15mins, 45mins, 90mins and 120mins respectively, mode of delivery was noted, APGAR score in all babies at 1 and 5 minute was noted.
Result: Around 90%of the subject reported that there was significant pain reduction in the study group who received paracervical block (p<0.oo1) when compared to the control group who didn't receive any medication, APGAR score was found satisfactory in both groups.
Conclusion: Paracervical block with lignocaine is an effective method to cease pain during labour.

Keywords: Labour, Paracervical Block, Analgesia

Introduction
Pain relief in labour is the most researched topic since the history of modern medicine, pain is experienced as multiple physiological and psychosocial factors [1] labour pain starts without a warning and it becomes the most panicking situation for the mother to undergo, so several studies reported that labour pain to be the most severe pain that a woman experiences in her lifetime [3] and have been tried to ease the delivery. The simplicity and safety of the paracervical block [4-5] for the relief of discomfort during labour has been noted by several authors and it has been used over decades to relieve the pain in mother. In this study we have studied the effectiveness of paracervical block to reduce the psychological complications of painful labour.

Materials and Methods
After getting clearance from the ethical committee of Rajah Muthiah Medical College the study was carried out in obstetrics and gynaecology department from 2016 to 2108. A total of 100 cases of uncomplicated full term antenatal mothers in established early labour is admitted to Rajah Muthiah Medical College and Hospital in labour ward and were randomly allocated into study and control group.
Patient with following condition are excluded from study

- Uteroplacental insufficiency
- Diabetes, Pre eclampsia, chronic hypertension
- Malpresentation
- IUGR
- Multiple gestation
- Pretem
- PROM
- Congenital anomaly
- Fetal distress
- CPD
- Placenta previa

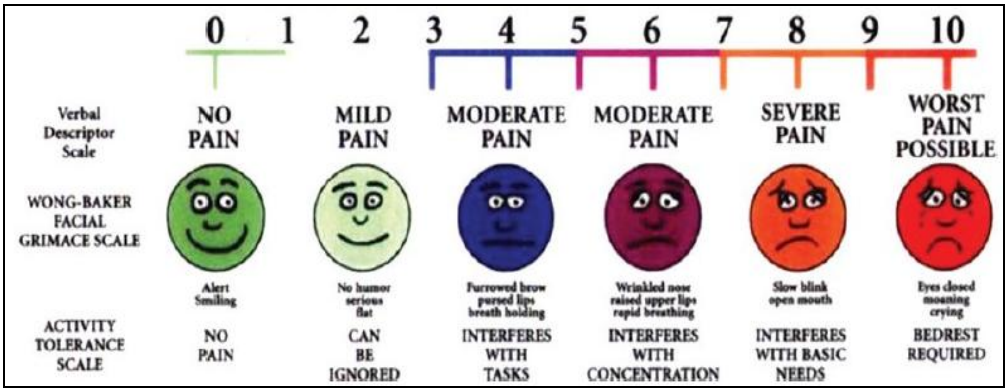
The study was conducted using 20ml of 1%lignocaine injections at 2, 5, 7, 11 o clock position in study group in lateral fornix [6] with paracervical block needle with guide, 5ml of lignocaine is infiltrated in each position and pain relief was recorded by VAS from then at 15mins, 45mins, 90mins, 120mins till lignocaine wares out, mode of delivery was noted, APGAR score at 1 and 5 min was noted.

Age	Group				Total	
	Study		Control			
	No.	%	No.	%	No.	%
18-22 yrs	15	30.0	21	42.0	36	36.0
23-27 yrs	24	48.0	17	34.0	41	41.0
28-32 yrs	11	22.0	12	24.0	23	23.0
Total	50	100.0	50	100.0	100	100.0

	Value	Df	P value
Pearson Chi-Square	2.239	2	0.327

Results

The maximum age group of women in control and study group falls under 23±4 years there was no significant difference in the patient included in the study and control group (p=0.327)



Pain intensity after paracervical block is recorded after 15mins in study group 12 women (24%) falls under VAS score 0, (56%) that is 28 women falls under VAS score 2 and 10 women that is (20%) falls under VAS score 2 and in control group 23(46)% women falls under VAS score 4,17 women (34%) falls under VAS SCORE 5,7(14%) falls under VAS score 6 and 2 women (4%) falls under VAS score 7 the difference between two groups are statistically significant (p<0.001). After 45mins from paracervical block 3 women (6%) of falls under VAS 0,24 women (48%) falls under VAS scoring 1 and 23 women (46%) falls under VAS scoring 2, in control group 5 women (10%) falls under VAS scoring 4, in 10 women (20%) falls under VAS scoring 5,in 22 women (44%) falls under VAS scoring 6,11 women (22%) falls under VAS scoring 7,1 women (2%) falls under VAS scoring 8 the difference between two groups are statistically significant (p<0.001). After 90mins of paracervical block 1 women (2%) had VAS scoring 0, 16 women (32%) had VAS scoring 1, 32 women (64%) has VAS scoring 2, 1 woman (2%) had VAS scoring 3, in control group 6 women (12%) has VAS scoring 5, 1 woman (2%) had VAS scoring 6, 19 women (38%) had VAS scoring 7, 17 women (34%) had VAS scoring 8, 7 women (14%) had VAS scoring 9, the difference between two groups are statistically significant (p<0.001).

After 120mins of parecervical block 7 women (14%) has VAS score 2, 4 women (8%) had VAS score 3,31 women (62%) had VAS score 4,6 women (12%) had VAS score 5, 2 women (4%) had VAS scoring 6, in control group 17 women (34%) had VAS SCORE 7, 27 women (54%) had VAS score 8, 6 women (12%) had VAS score 9 the difference between the groups are statistically insignificant (p<0.001).

The APGAR score for babies at 1 min in study group, for 10 babies (20%) falls under scoring (4 to 5) 31 babies (62%) under (6 to 7) 9 babies (18%) falls under score 8 to 9, in control group 2 babies (4%) had APGAR score (0to 3), in 3 babies (6%) had score (4 to 5), 37 babies (74%) had APGAR score (6 to 7) in 8 babies (16%) had APGAR (8 to 9) the difference between two groups are statistically significant (p<0.095).

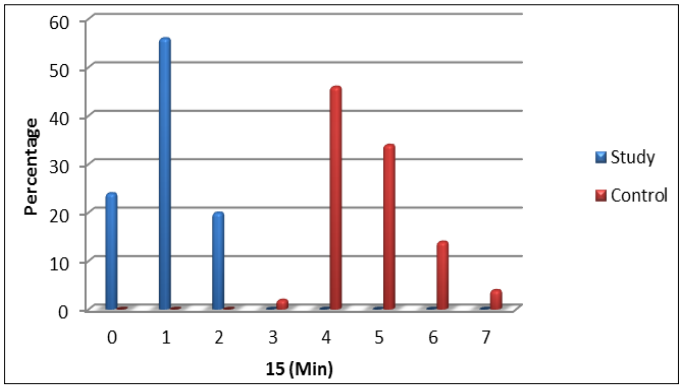
The APGAR scoring after 5 minutes in study group 13 babies (26%) has APGAR (6 to7) 37 babies (74%) have 8 t 9in control group 1baby (2%) have APGAR (4to5), 10 baby (20%) have APGAR (6 to 7), 39 babies (78%) have APGAR (8 to 9) the difference between the groups are statically significant (p.<0.4).

15 (Min) * Group

15 (Min)	Group				Total	
	Study		Control			
	No.	%	No.	%	No.	%
0	12	24.0	0	.0	12	12.0
1	28	56.0	0	.0	28	28.0
2	10	20.0	0	.0	10	10.0
3	0	.0	1	2.0	1	1.0
4	0	.0	23	46.0	23	23.0
5	0	.0	17	34.0	17	17.0
6	0	.0	7	14.0	7	7.0
7	0	.0	2	4.0	2	2.0
Total	50	100.0	50	100.0	100	100.0

Chi-Square Tests

	Value	df	P value
Pearson Chi-Square	100.0	7	0.000

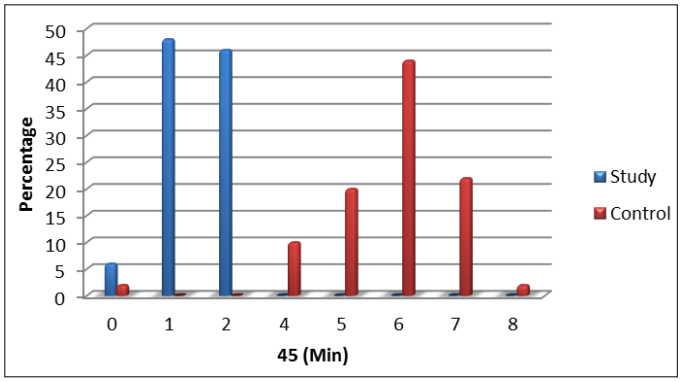


45 (Min) * Group

45 (Min)	Group				Total	
	Study		Control			
	No.	%	No.	%	No.	%
0	3	6.0	1	2.0	4	4.0
1	24	48.0	0	.0	24	24.0
2	23	46.0	0	.0	23	23.0
4	0	.0	5	10.0	5	5.0
5	0	.0	10	20.0	10	10.0
6	0	.0	22	44.0	22	22.0
7	0	.0	11	22.0	11	11.0
8	0	.0	1	2.0	1	1.0
Total	50	100.0	50	100.0	100	100.0

Chi-Square Tests

	Value	df	P value
Pearson Chi-Square	97.000	7	0.000

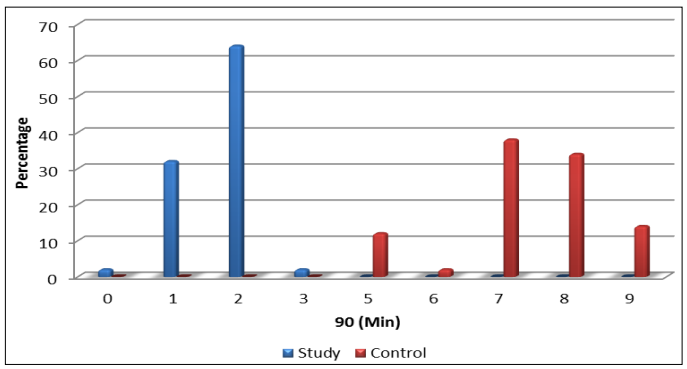


90 (Min) * Group

90 (Min)	Group				Total	
	Study		Control			
	No.	%	No.	%	No.	%
0	1	2.0	0	.0	1	1.0
1	16	32.0	0	.0	16	16.0
2	32	64.0	0	.0	32	32.0
3	1	2.0	0	.0	1	1.0
5	0	.0	6	12.0	6	6.0
6	0	.0	1	2.0	1	1.0
7	0	.0	19	38.0	19	19.0
8	0	.0	17	34.0	17	17.0
9	0	.0	7	14.0	7	7.0
Total	50	100.0	50	100.0	100	100.0

Chi-Square Tests

	Value	df	P value
Pearson Chi-Square	100.0	8	0.000

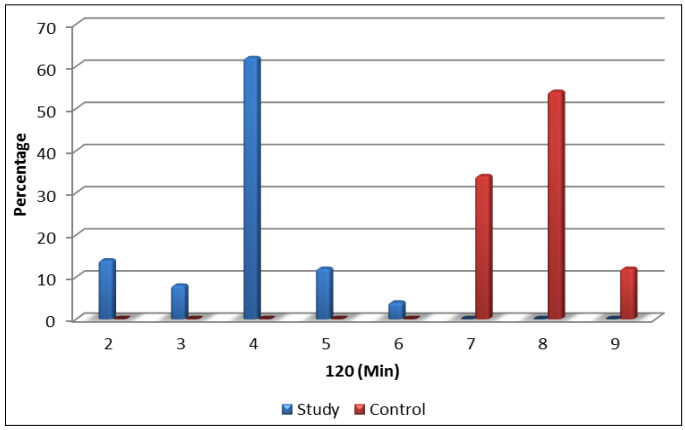


120 (Min) * Group

120 (Min)	Group				Total	
	Study		Control			
	No.	%	No.	%	No.	%
2	7	14.0	0	.0	7	7.0
3	4	8.0	0	.0	4	4.0
4	31	62.0	0	.0	31	31.0
5	6	12.0	0	.0	6	6.0
6	2	4.0	0	.0	2	2.0
7	0	.0	17	34.0	17	17.0
8	0	.0	27	54.0	27	27.0
9	0	.0	6	12.0	6	6.0
Total	50	100.0	50	100.0	100	100.0

Chi-Square Tests

	Value	df	P value
Pearson Chi-Square	100.0	7	0.000

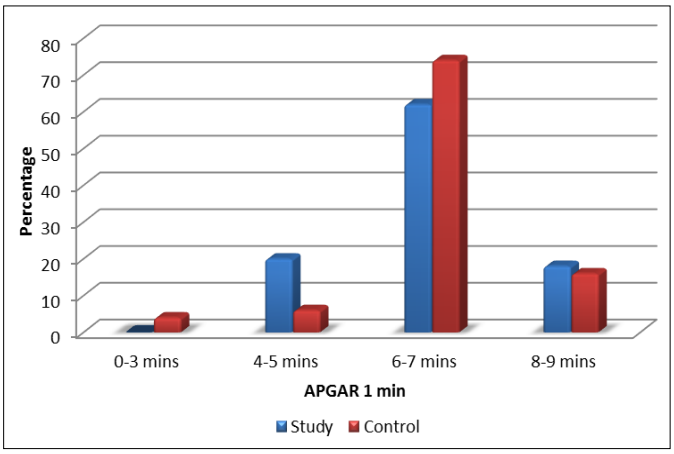


Apgar 1 min * Group

APGAR 1 mins	Group				Total	
	Study		Control			
	No.	%	No.	%	No.	%
0-3 mins	0	.0	2	4.0	2	2.0
4-5 mins	10	20.0	3	6.0	13	13.0
6-7 mins	31	62.0	37	74.0	68	68.0
8-9 mins	9	18.0	8	16.0	17	17.0
Total	50	100.0	50	100.0	100	100.0

Chi-Square Tests

	Value	df	P value
Pearson Chi-Square	6.357	3	0.095

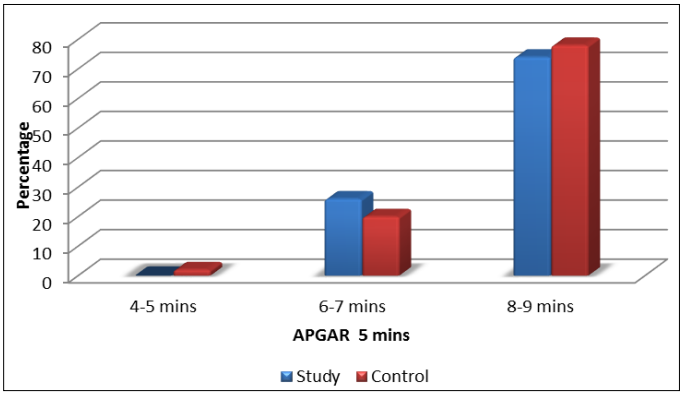


APGAR 5 Mins * Group

Apgar 5 mins	Group				Total	
	Study		Control			
	No.	%	No.	%	No.	%
4-5 mins	0	.0	1	2.0	1	1.0
6-7 mins	13	26.0	10	20.0	23	23.0
8-9 mins	37	74.0	39	78.0	76	76.0
Total	50	100.0	50	100.0	100	100.0

Chi-Square Tests

	Value	DF	P value
Pearson Chi-Square	1.444	2	0.486



Discussion

The study was planned to find the efficacy of paracervical block in relieving pain during labour using 1% lignocaine the pain relief was immediate and the scoring was recorded from 15 minutes till lignocaine wares out, the present study showed that paracervical block relieved pain during labour, around 90% subjects had pain free labour though some patients needed second dose of block, recently a coharane review also reported that women who received local anaesthetic nerve block were more likely to be satisfied with pain relief compared with women who received placebo (RR 32.31, 95% CI 10.60 to 98.54, one study, 198 women).

Zamani Mehrangiz *et al.* [7] also studied Paracervical block as labour analgesia and found that baseline score was 8 to 10 as per VAS which decreased to 0 to 2 after administration of Paracervical block. Mean duration of labour was found to be reduced in study subjects when compared with standard duration of labour. Similar results were reported by Deshpande *et al.* in their study [8]. The Apgar score is not affected by paracervical block as shown by the study of Nagal *et al.* [9], Latha B [10] study and present study. However, foetal bradycardia was noted in 2 patients in our study which was also reported by Latha B study [10]. To conclude.

Conclusion

Paracervical block can be used as an effective mode of labour analgesia which is simple, easy does not require expertise for administration and is helpful for the patient

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