MAK HILL Publications Research Journal of Medical Sciences

Research Article
doi: 10.36478/makrjms.2025.1.259.264

Comparative Study of 2mg Vs 4mg of Injection Dexamethasone as an Adjuvant For Ultrasound Guided Supra Clavicular Brachial Plexus Block

[1]Gandeeva Ramesh Mudigere, [2]Rosy Rajagopal and [3]Priya Mitali

[1,2]Department of Anesthesiology, K S Hegde Medical Academy, Mangalore, 575018, India

[3]Department of Anesthesiology, Father Muller Medical College, Mangalore 575002, India

ABSTRACT

In upper extremity procedures, the supra clavicular brachial plexus block was a significant, secure and safer method than general anaesthesia. The study was carried out with local anaesthetic agent inj. Levobupivacaine 0.5% which is mixed with synthetic glucocorticoid Dexamethasone to examine the effects. This study aims to compare 2mg vs 4mg Dexamethasone as an adjuvant with local anaesthetic drug by ultrasound guided supra clavicular brachial plexus block. In this prospective observational study we included 48 patients between the age of 18-75 years with all ASA grades who were posted for upper limb surgery. They were randomly allocated into 2 groups of 24. Group R 24 received 20 ml of inj. 0.5% Levobupivacaine with (2 mg) Dexamethasone and Group S received 20ml of inj. 0.5% Levobupivacaine with (4mg) of inj Dexamethasone. The present study was conducted among 48 participants. The onset of action of sensory blockade between Group R and Group S did not show any significant difference in both Groups at 0mins, 5mins, 10mins, 15mins, 20mins, 25mins and 30mins. The onset of action of motor blockade between Group R and Group S did not show any significant difference in both Groups at 0mins, 5mins, 10mins, 15mins, 20mins, 25mins and 30mins. The Independent sample "t" test was used to compare the onset of time (minutes) of sensory and motor blockade between the groups. There was no difference ($p>0.05$) in the onset of time of sensory as well as motor blockade between Group R and Group S. Dexamethasone added to Levobupivacaine 0.5% for supra clavicular brachial plexus block has no significant difference in the onset of action of sensory and motor blockade in Group R and Group S.

OPEN ACCESS

Key Words

Dexamethasone, ultrasound guided, supra clavicular brachial plexus block, Levobupivacaine

Corresponding Author

Priya Mitali,
Department of Anesthesiology, Father Muller Medical College, Mangalore 575002, India
priyamitali2000@yahoo.co.in

Author Designation

[1,3]Assistant Professor
[2]Msc Anaesthesia and Operation Theatre Technology

Received: 05 August 2024
Accepted: 16 September 2024
Published: 20 October 2024

Citation: Gandeeva Ramesh Mudigere, Rosy Rajagopal and Priya Mitali, 2025. Comparative Study of 2mg Vs 4mg of Injection Dexamethasone as an Adjuvant For Ultrasound Guided Supra Clavicular Brachial Plexus Block. Res. J. Med. Sci., 19: 259-264, doi: 10.36478/makrjms.2025.1.259.264

INTRODUCTION

Regional anaesthesia renders a particular body portion numb to relieve pain and permits the surgery to be performed. Brachial plexus block is one of the methods frequently used to administer regional anaesthesia for procedures involving the upper limb. A network of nerves called the brachial plexus gives rise to motor and sensory nerves of the upper extremity. Compared to other methods of brachial plexus block, the supra clavicular block of the brachial plexus offers several advantages[1,2]. Surgery distal to the shoulder can be safely and effectively performed using an ultrasound guided (USG) supra clavicular block. To administer a USG nerve block, a specific amount of experience and skill is required. Ultrasound reduces block performance time and enhances sensory and motor block. Brachial plexus blocks using ultrasound guidance may have higher success and lower complication rates. Levobupivacaine, a local anaesthetic, belonging to the amino amide group is the S-enantiomer of bupivacaine[3]. It has reduced toxic levels compared to bupivacaine with lower central nervous system toxicity and cardiovascular depressive effect. It mostly reduces the need for post operative opioids. It has a decreased arrhythmogenic potential and lessens central nervous system depression. Dexamethasone is effective when combined with Levobupivacaine 0.5%. The main goal of this study is to compare the effect of 2mg and 4 mg Dexamethasone adding to Levobupivacaine 0.5% to observe the onset of action in intra operative period.

MATERIALS AND METHODS

Present study was Prospective comparative observational study, conducted in department of anaesthesiology, at Justice K. S. Hegde Charitable Hospital, Deralakatte, Mangaluru, India. Study duration was of 6 months (April 2023-March 2024). Study was approved by institutional ethical committee.

Inclusion Criteria:

- Patients between the age of 18-75 years underwent upper extremity with all ASA grades under ultrasound guided supraclavicular brachial plexus block, willing to participate in present study.

Exclusion Criteria:

- Patient refusal.
- Local anaesthetic allergy.
- Failure of block.
- Patient below 50kg.

Study was explained to participants in local language and written informed consent was taken. For the study, all the patients had one large bore cannula for the administration of fluids and drugs. Twenty-four patients in each group, a total of forty-eight patients, posted for upper extremity surgeries under ultrasound guided supra clavicular brachial plexus block were selected based on inclusion and exclusion criteria. Patients were categorized into two groups (group R and group S). The patients are allocated to either group as per the discretion of the concerned anaesthesiologist. The patients were shifted to the block room 30 minutes before starting the surgical procedure. On arrival to Block Room, NIBP, ECG, SPO2, HR is recorded. Supra clavicular brachial plexus block is performed by the concerned anaesthesiologist under all aseptic precautions using ultrasound equipped with a high frequency (6-13MHZ) linear probe.

- **Group R (n=24)**: Received injection 0.5% Levobupivacaine 20 ml with Dexamethasone 2mg
- **Group S (n=24):** Received injection 0.5% Levobupivacaine 20 ml with Dexamethasone 4mg.

The drugs were injected incrementally following negative aspiration to obtain a uniform spread around the brachial plexus. The data such as onset of sensory block, onset of motor block was collected. The collected data were summarized by using Descriptive Statistics: frequency, percentage; mean and S.D. The Independent sample "t" test was used to compare age, height, weight, BMI, SBP, DBP and SPO2 between the groups. The chi square test was used to compare gender and ASA Physical Status between the groups. The p value <0.05 was considered as significant. Data were analyzed by using the SPSS software (SPSS Inc., Chicago, IL) version 29.0.10.

RESULTS AND DISCUSSIONS

The present study was conducted among 48 participants. The age of the patients ranged from 20 to 67 years with a mean of 44.1±12.4. Out of 48 patients, 35 patients were males and 13 patients were females, accounting for 27.1% and 72.9% respectively. Out of 48 patients, 17 patients with ASA PS I and 19 patients with ASA PS II and 12 patients with ASA PS III, accounting for 35.4%, 39.6%, 25% respectively. Out of 48 patients recruited for the study groups Group R and Group S accounted for 50 percent of the present study groups. The Independent sample "t" test was used to compare age, height, weight and BMI between the groups. There was no difference (p>0.05) in age, height, weight as well as BMI between Group R and Group S. The Chi square test was used to compare gender and ASA physical status between the groups. There was no difference (p>0.05) in gender as well as ASA physical status between Group R and Group S. The Independent sample "t" test was used to compare HR, SBP, DBP, MAP and SPO2 between the groups. There was no difference (p>0.05) in HR, SBP, DBP, MAP as well as SPO2 between Group R and Group S. The onset of action of sensory blockade between Group R and Group S did not show any significant difference in both Groups at 0mins, 5mins, 10mins, 15mins, 20mins,

Table 1: General Characteristics

Characteristics	No. of subjects	Percentage
Mean age (years)	44.1±12.4	
Mean weight (kg)	62.2±17.5	
Mean height (cm)	159.9±18.4	
Mean BMI (kg/m2)	22.4±3.2	
Gender		
Male	35	72.9
Female	13	27.1
ASA Physical status		
I	17	35.4
II	19	39.6
III	12	25

Table 2: Comparison of Gender and ASA Physical Status Between the Groups

	Group R (Mean±S.D/ no. of patients)	Group S (Mean±S.D/ no. of patients)	"t" / Chi square	P value
Mean age (years)	43.1±13.2	45.1±11.8	-0.57	0.575
Mean weight (kg)	57.3±8.6	67.0±22.3	-2.00	0.051
Mean height (cm)	159.7±8.5	160.0±24.9	-0.06	0.956
Mean BMI (kg/m2)	21.8±2.9	23.0±3.4	-1.29	0.205
Gender				
Male	17 (70.8 %)	18 (75 %)	0.105	0.745
Female	7 (29.2 %)	6 (25 %)		
ASA Physical status				
I	9 (37.5 %)	8 (33.3 %)		
II	9 (37.5 %)	10 (41.7 %)		
III	6 (25.0 %)	6 (25 %)		

Table 3: Comparison of HR, SBP, DBP, MAP and SPO2 Between the Groups

	Group R (Mean±S.D)	Group S (Mean±S.D)	"t"	P value
HR (bpm)	83.8±13.4	79.1±10.5	1.34	0.186
SBP (mmHg)	159.2±34.8	163.6±36.9	-0.42	0.674
DBP (mmHg)	88.7±22.7	89.7±14.4	-0.18	0.856
MAP (mmHg)	108.0±23.7	110.8±21.2	-0.42	0.674
SPO2 (%)	98.2±1.8	98.3±1.2	-0.38	0.709

("t" = Independent sample "t" test)

Table 4: Sensory Blockade According to Groups

Sensory blockade			Groups Group R		Group S	
			n	%	n	%
0 minutes	mc	Patient feels cold and touch sensation	23	95.8	23	95.8
		Can't feel cold but can feel touch (Analgesia)	1	4.2	0	0
		Can't feel cold and touch (Anaesthesia)	0	0	1	4.2
	median	Patient feels cold and touch sensation	24	100	24	100
	radial	Patient feels cold and touch sensation	24	100	23	95.8
		Can't feel cold and touch (Anaesthesia)	0	0	1	4.2
	ulnar	Patient feels cold and touch sensation	24	100	23	95.8
		Can't feel cold and touch (Anaesthesia)	0	0	1	4.2
5 minutes	mc	Patient feels cold and touch sensation	0	0	22	91.7
		Can't feel cold but can feel touch (Analgesia)	23	95.8	2	8.3
		Can't feel cold and touch (Anaesthesia)	1	4.2	0	0
	median	Patient feels cold and touch sensation	14	58.3	4	16.7
		Can't feel cold but can feel touch (Analgesia)	10	41.7	19	79.2
		Can't feel cold and touch (Anaesthesia)	0	0	1	4.2
	radial	Patient feels cold and touch sensation	21	87.5	14	58.3
		Can't feel cold but can feel touch (Analgesia)	3	12.5	9	37.5
		Can't feel cold and touch (Anaesthesia)	0	0	1	4.2
	ulnar	Patient feels cold and touch sensation	21	87.5	19	79.2
		Can't feel cold but can feel touch (Analgesia)	3	12.5	4	16.7
		Can't feel cold and touch (Anaesthesia)	0	0	1	4.2
10 minutes	mc	Patient feels cold and touch sensation	0	0	21	87.5
		Can't feel cold but can feel touch (Analgesia)	20	83.3	2	8.3
		Can't feel cold and touch (Anaesthesia)	4	16.7	1	4.2
	median	Patient feels cold and touch sensation	0	0	2	8.3
		Can't feel cold but can feel touch (Analgesia)	22	91.7	19	79.2
		Can't feel cold and touch (Anaesthesia)	2	8.3	2	8.3
	radial	Patient feels cold and touch sensation	17	70.8	1	4.2
		Can't feel cold but can feel touch (Analgesia)	6	25.0	20	83.3
		Can't feel cold and touch (Anaesthesia)	1	4.2	2	8.3
	ulnar	Patient feels cold and touch sensation	21	87.5	17	70.8
		Can't feel cold but can feel touch (Analgesia)	2	8.3	6	25.0
		Can't feel cold and touch (Anaesthesia)	1	4.2	0	0
15 minutes	mc	Patient feels cold and touch sensation	0	0	19	79.2
		Can't feel cold but can feel touch (Analgesia)	11	45.8	4	16.7
		Can't feel cold and touch (Anaesthesia)	13	54.2	0	0
	median	Patient feels cold and touch sensation	0	0	2	8.3
		Can't feel cold but can feel touch (Analgesia)	16	66.7	1	4.2
		Can't feel cold and touch (Anaesthesia)	8	33.3	20	83.3
	radial	Patient feels cold and touch sensation	10	41.7	0	0
		Can't feel cold but can feel touch (Analgesia)	12	50.0	15	62.5
		Can't feel cold and touch (Anaesthesia)	2	8.3	8	33.3
	ulnar	Patient feels cold and touch sensation	15	62.5	2	8.3
		Can't feel cold but can feel touch (Analgesia)	7	29.2	17	70.8
		Can't feel cold and touch (Anaesthesia)	2	8.3	4	16.7
20 minutes	mc	Patient feels cold and touch sensation	0	0	16	66.7
		Can't feel cold but can feel touch (Analgesia)	0	0	6	25.0
		Can't feel cold and touch (Anaesthesia)	23	95.8	1	4.2
	median	Patient feels cold and touch sensation	0	0	1	4.2
		Can't feel cold but can feel touch (Analgesia)	3	12.5	1	4.2
		Can't feel cold and touch (Anaesthesia)	20	83.3	20	83.3
	radial	Can't feel cold but can feel touch (Analgesia)	18	75.0	0	0
		Can't feel cold and touch (Anaesthesia)	5	20.8	22	91.7
	ulnar	Patient feels cold and touch sensation	10	41.7	0	0
		Can't feel cold but can feel touch (Analgesia)	12	50.0	16	66.7
		Can't feel cold and touch (Anaesthesia)	1	4.2	6	25.0
25 minutes	mc	Patient feels cold and touch sensation	0	0	9	37.5
		Can't feel cold but can feel touch (Analgesia)	0	0	11	45.8
		Can't feel cold and touch (Anaesthesia)	23	95.8	2	8.3
	median	Can't feel cold and touch (Anaesthesia)	23	95.8	22	91.7
	radial	Can't feel cold but can feel touch (Analgesia)	11	45.8	0	0
		Can't feel cold and touch (Anaesthesia)	12	50.0	22	91.7
	ulnar	Can't feel cold but can feel touch (Analgesia)	15	62.5	1	4.2
		Can't feel cold and touch (Anaesthesia)	8	33.3	21	87.5
30 minutes	mc	Can't feel cold but can feel touch (Analgesia)	0	0	18	75.0
		Can't feel cold and touch (Anaesthesia)	16	66.7	4	16.7
	median	Can't feel cold and touch (Anaesthesia)	16	66.7	20	83.3
	radial	Can't feel cold and touch (Anaesthesia)	16	66.7	19	79.2
	ulnar	Can't feel cold and touch (Anaesthesia)	16	66.7	19	79.2

Table 5: Motor Blockade According to Groups

Motor blockade			Groups			
			Group R		Group S	
			n	%	n	%
0 minutes	mc	No motor block	24	100	5	20.8
		Paralysis	0	0	19	79.2
	median	No motor block	24	100	22	91.7
		Paresis	0	0	1	4.2
		Paralysis	0	0	1	4.2
	radial	No motor block	24	100	23	95.8
		Paralysis	0	0	1	4.2
	ulnar	No motor block	24	100	23	95.8
		Paralysis	0	0	1	4.2
5 minutes	mc	No motor block	10	41.7	23	95.8
		Paresis	14	58.3	0	0
		Paralysis	0	0	1	4.2
	median	No motor block	22	91.7	4	16.7
		Paresis	2	8.3	19	79.2
		Paralysis	0	0	1	4.2
	radial	No motor block	23	95.8	20	83.3
		Paresis	1	4.2	3	12.5
		Paralysis	0	0	1	4.2
	ulnar	No motor block	23	95.8	21	87.5
		Paresis	1	4.2	2	8.3
		Paralysis	0	0	1	4.2
10 minutes	mc	No motor block	1	4.2	21	87.5
		Paresis	21	87.5	2	8.3
		Paralysis	2	8.3	1	4.2
	median	No motor block	13	54.2	0	0
		Paresis	10	41.7	22	91.7
		Paralysis	1	4.2	1	4.2
	radial	No motor block	23	95.8	8	33.3
		Paresis	1	4.2	14	58.3
		Paralysis	0	0	1	4.2
15 minutes	ulnar	No motor block	23	95.8	20	83.3
		Paresis	1	4.2	3	12.5
	mc	No motor block	0	0	21	87.5
		Paresis	15	62.5	2	8.3
		Paralysis	9	37.5	0	0
	median	Paresis	22	91.7	2	8.3
		Paralysis	2	8.3	21	87.5
	radial	No motor block	16	66.7	1	4.2
		Paresis	7	29.2	18	75.0
		Paralysis	1	4.2	4	16.7
	ulnar	No motor block	17	70.8	7	29.2
		Paresis	6	25.0	15	62.5
		Paralysis	1	4.2	1	4.2
20 minutes	mc	No motor block	0	0	19	79.2
		Paresis	3	12.5	3	12.5
		Paralysis	20	83.3	1	4.2
	median	Paresis	16	66.7	1	4.2
		Paralysis	7	29.2	21	87.5
	radial	No motor block	7	29.2	0	0
		Paresis	15	62.5	5	20.8
		Paralysis	1	4.2	17	70.8
	ulnar	No motor block	13	54.2	1	4.2
		Paresis	10	41.7	20	83.3
		Paralysis	0	0	1	4.2
25 minutes	mc	No motor block	0	0	12	50.0
		Paresis	0	0	10	41.7
		Paralysis	23	95.8	0	0
	median	Paresis	1	4.2	0	0
		Paralysis	22	91.7	22	91.7
	radial	Paresis	14	58.3	0	0
		Paralysis	9	37.5	22	91.7
	ulnar	Paresis	17	70.8	8	33.3
		Paralysis	6	25.0	14	58.3
30 minutes	mc	Paresis	2	8.3	19	79.2
		Paralysis	14	58.3	3	12.5
	median	Paralysis	16	66.7	19	79.2
	radial	Paralysis	16	66.7	19	79.2
	ulnar	Paralysis	16	66.7	19	79.2

Table 6: Comparison of the Onset of Time of Sensory and Motor Blockade Between the Groups

Onset of time (minutes)		Mean	S.D	"t"	P value
Sensory blockade	Group R	27.9	3.6	0.43	0.666
	Group S	27.3	6.1		
Motor blockade	Group R	27.9	3.6	0.15	0.883
	Group S	27.7	5.9		

("t" = Independent sample "t" test)

25mins and 30 mins. So, there is no significant difference between the two Groups. The onset of action of motor blockade between Group R and Group S did not show any significant difference in both Groups at 0mins, 5mins, 10mins, 15mins, 20mins, 25mins and 30mins. So, there is no significant difference between the two Groups. The Independent sample "t" test was used to compare the onset of time (minutes) of sensory and motor blockade between the groups. There was no difference ($p>0.05$) in the onset of time of sensory as well as motor blockade between Group R and Group S. For upper limb procedures, supra clavicular brachial plexus block is a reliable, time-tested regional anaesthetic method[2]. In addition to being a great substitute, it also has several benefits over general anaesthesia during the procedure, such as a decreased stress response, less blood loss, the best post- operative analgesia, a decreased risk of postoperative nausea and vomiting, early ambulation and a shorter hospital stay, all of which contribute to better clinical outcomes and patient satisfaction. Sensory blockade in mc at initial time point (0 minutes), both groups had normal sensations, with patients reporting feeling both cold and touch sensations. This indicates that the sensory blockade has not yet taken effect immediately following administration. In Group R, there is a gradual transition towards analgesia and anaesthesia, with a more significant increase in anaesthesia observed at later time points, particularly at 20 and 25 minutes. This suggests that the sensory blockade in Group R has taken some time to fully develop. Conversely, Group S shows a more rapid onset of sensory blockade effects in the mc distribution. By 5 minutes, a substantial proportion of patients in Group S already report analgesia, with some progressing to anaesthesia by 10 minutes. This indicates a quicker onset and more profound sensory blockade in Group S compared to Group R. The findings suggest that while both groups ultimately achieve similar levels of sensory blockade in the mc distribution, Group S achieves this more rapidly compared to Group R. Levobupivacaine exhibits a longer duration of action and it is a cardio-stable local anaesthetic with the qualities of sensory, motor block and post-operative analgesia when administered alone or with Dexamethasone as an adjuvant. In our prospective observational study, we obtained that the addition of Dexamethasone to Levobupivacaine 0.5% has no difference in onset of action. Studies like Hanumansetty[3] added Dexamethasone 8mg to Levobupivacaine 0.5% randomized double-blind research which extended post-operative analgesia and the duration of sensory and motor block, but it did not influence the onset or peak effect time of the block. Biradar[4] added (Group 1) 4 mg and (Group 2) 8mg Dexamethasone to 18 ml of 0.5% Bupivacaine based on randomization in two groups under ultrasound guided SCBPB. They found Group 2 had longer duration and post operative analgesia compared to Group 1 but there was no statistically significant difference in the onset time of sensory and motor blockade between the two groups (p-value=0.886).34. Researchers such as Chaudhari[5] Reddy[6] and Sm[7] and conducted their comparative studies having a control group without Dexamethasone and with Dexamethasone to local anaesthetics like Lignocaine 2%, Lignocaine with adrenaline and Bupivacaine 0.5%. In all their studies they have concluded that the onset of action in the sensory and motor blockade is fast in groups where Dexamethasone is added as adjuvant compared to control groups. Pani[8] compared 0.5% Levobupivacaine in (Group D) without Dexamethasone and (Group S) with Dexamethasone (8mg). They found that compared to Group D, Group S had a faster onset of action and longer duration of sensory and motor blockade.36 The faster onset may be due to the adding 8 mg of Dexamethasone to local anaesthetics. In our study, we added low doses of Dexamethasone (2 mg) in Group R and Dexamethasone (4 mg) in Group S with slow acting local anaesthetics 0.5% Levobupivacaine of 20 ml to examine their onset of sensory and motor blockade. At 0 minutes, the majority of participants in Group R felt both cold and touch sensations, with a small percentage experiencing varying degrees of sensory blockade. By 30 minutes, there were some instances of complete anaesthesia (inability to feel cold and touch) reported in Group R and Group S. Overall, both Group R and Group S showed similar trends in the onset of sensory blockade. Same as in the onset of Motor Blockade Group R at 0 minutes, all participants had no motor block. By 30 minutes, a considerable portion of participants in Group R experienced paresis or paralysis similar to Group S. There were no differences observed in the onset of motor blockade between the two groups based on the provided data. In Chaudhari[6] they have concluded that compared to control groups, the group which added Dexamethasone had a faster onset. There is no difference in 2mg, 4mg and 8mg Dexamethasone in onset of action. There is no proper reason for having fast onset of action in Dexamethasone. In Reddy[5] they have used different local anaesthetics with different concentrations but they have concluded that only after adding adjuvant Dexamethasone there is fast onset of action. Biradar[4] have done the same doses of Dexamethasone as our study but with 0.5% Bupivacaine but there is no difference in the onset of sensory and motor blockade. Dexamethasone has no properties of fast onset but also it hastens the onset of action compared to control groups. Limitations of this

study were due to short acting LA Levobupivacaine 0.5%, it has taken 15-30mins to act. Only onset was seen. In some patients it acted fast might be because of sedation. In both groups male patient is more compared to female.

CONCLUSION

We concluded in the present study that there was no significant difference in the onset of action of sensory and motor blockade between Group R (2mg) and Group S (4mg) Dexamethasone to 0.5% Levobupivacaine in supra clavicular brachial plexus block. Also, Dexamethasone provides better hemodynamic stability without adverse reactions. Additional research should be conducted to know the reason for the onset of action in Dexamethasone, with lower doses of Dexamethasone for prolongation of duration of sensory, motor block and rescue analgesia with a larger sample size.

Conflict of Interest: None to declare.

Source of Funding: Nil.

REFERENCES

1. Deandr, J. and X. Salablanch, 2002. Ultrasound in the practice of brachial plexus anesthesia. Regional Anesthesia Pain Med., 27: 77-89.
2. Islam, S., M. Hossain and A. Maruf, 1970. Effect of Addition of Dexamethasone to Local Anaesthetics in Supraclavicular Brachial Plexus Block. J. Armed Forces Med. Coll., Bangladesh, 7: 11-14.
3. Hanumansetty, K., H.S. and G.C. L, 2017. Effect of dexamethasone as an adjuvant to 0.5% levobupivacaine in supra clavicular brachial plexus block for upper extremity surgeries. Int. J. Res. Med. Sci., Vol. 5 .10.18203/2320-6012. ijrms20171822.
4. Biradar, P., P. Kaimar and K. Gopalakrishna, 2013. Effect of dexamethasone added to lidocaine in supraclavicular brachial plexus block: A prospective, randomised, double-blind study. Indian J. Anaesth., Vol. 57 .10.4103/0019-5049. 111850.
5. Chaudhari, A.R., P. Deshmukh, H. Sandhu, K. Gujarkar and V. Hakole, 2022. Study of effect of dexamethasone added to lignocaine plus adrenaline in supraclavicular brachial plexus block. Int. journal health sciences, 2: 2964-2974.
6. Reddy, E. and S. Srikanth., 2024. Supraclavicular Brachial plexus block using Lidocaine with Adrenaline and Dexomethasone as an adjunct -A study on 60 cases [Internet].
7. Sm, I., H. Mhmd and M. Aa., 2011. Effect of addition of dexamethasone to local anaesthetics in supraclavicular brachial plexus block. 0 Vol. 7.
8. Routray, S., N. Pani, D. Mishra, B. Pradhan, B. Mohapatra and D. Swain, 2017. A clinical comparison between 0.5% levobupivacaine and 0.5% levobupivacaine with dexamethasone 8 mg combination in brachial plexus block by the supraclavicular approach. Indian J. Anaesth., 61.