



**ORIGINAL RESEARCH PAPER**

**Anesthesiology**

**COMPARISON BETWEEN SUPERIOR HYPOGASTRIC PLEXUS BLOCK VERSUS ANALGESICS FOR PAIN IN LOWER ABDOMINAL MALIGNANCIES**

**KEY WORDS:** Superior Hypogastric Plexus Block, Nrs, Malignancy.

**Vandana A Kamble**

Post Graduate, Yenepoya Medical College Hospital.

**Ananth Prasad Rao H T\***

Assistant Professor , Department Of Anaesthesia, Yenepoya Medical College Hospital. \*Corresponding Author

**ABSTRACT**

**INTRODUCTION:** In peripheral settings and in the present era with increasing amount of malignancy cases being detected and with timely interventions, a majority of people are benefited with early diagnosis and treatment. In our study, we hereby aim at reducing the inconvenience caused to the patient by employing the interventional neurolysis of the Superior Hypogastric plexus and to compare this modality with conventional medical therapy with analgesics.

**MATERIALS AND METHODS:** A retrospective study was conducted on patients with lower abdominal malignancy pain who has underwent Superior Hypogastric plexus block, in Yenepoya Medical College Hospital, Mangalore. Written and informed consent was taken from all the patients undergoing block. The sample size we chose was total 26, 13 in each group based on inclusion and exclusion criteria. One patient was excluded from the study due to lack of follow ups. NRS (Numerical Rating Scale) scores and quality of sleep in terms of duration of hours of sleep noted at 24hrs, 1week, 1month, 3months and 6months.

**GROUP A:** patients underwent Hypogastric plexus block n=13

**GROUP B:** patients who received only palliative analgesics n=13.

**RESULTS:** Group A had lesser NRS scores when compared to Group B NRS scores. P value is significant at 24hrs, 1week, 1month, 3 month, and 6months with 0.00, 0.00, 0.00, 0.00 and 0.011 respectively. And quality of sleep is also better in Group A when compared to Group B. p values are significant at 24hrs (0.017), at 1week (0.006), at 1 month (0.019), and at 6months (0.023). p value is not significant at 3months.

**CONCLUSION:** Superior Hypogastric plexus block is better modality to treat pain when compared to analgesics in patients with lower abdomen cancer pain.

**INTRODUCTION**

In peripheral settings and in the present era with increasing amount of malignancy cases being detected and with timely interventions, a majority of people are benefited with early diagnosis and treatment. But, there are also a small subset of patients who are not fortunate enough and are diagnosed very late and in whom a surgical or medical treatment might not bare fruits.

In these patients, the primary intension would be good analgesia and better quality of life, but due to unavailability of advanced medical care facilities and logistical issues and tertiary health centres in the periphery, many patients are forced to go through pain due to advancement of the malignancy and inadequate awareness. The spiralling cost of treatment right from PET scan, surgery, radiation, chemotherapy would have exhausted the patient's financial resources and at the fag end of the illness, the patient's are not left with enough to care for further treatment, nutrition and pain management. Even though the WHO ladder of analgesics of pain management substantially reduces the pain by over 80% there is still a set of patients that continue to have pain, side effects of medications, inadequate analgesia and refrain from taking medications due to its shear cost. Hence this modality of neurolysis with one time Injection of Superior Hypogastric plexus with 60% alcohol as an alternative to combat various deterrents that the patient and their family face, reducing cost, side effects, and non-interfering with patients compliance has been studied.

In our study, we hereby aim at reducing the inconvenience caused to the patient by employing the interventional neurolysis of the Superior Hypogastric plexus and to compare this modality with conventional medical therapy with analgesics.

**MATERIALS AND METHODS**

After obtaining the Ethical committee clearance, A retrospective study was conducted on patients from December 2017 to July 2019 at Department of Anaesthesia, Pain and

Palliative care, Yenepoya Medical College and Hospital with lower abdominal malignancies which included carcinoma (ca) rectum, ca bladder, ca prostate, gynaecological malignancies like ca endometrium, ca ovary, ca cervix. Preparation of all patients was done before the procedure including written informed consent. A blanket consent was also taken before the procedure regarding publication in journals for all the patients. Before the procedure, patients were evaluated by taking their history regarding any comorbidities. General physical examination, airway assessment was done. Blood investigations were noted. High risk consent was taken for all the patients. Patients were kept NPO 6hrs for solids and 4hrs for liquids Then patients were divided into two groups.

**GROUP A:**

patients underwent Hypogastric plexus block n=13

**GROUP B:**

patients who received only palliative analgesics n=13.

Pre-procedure patients were evaluated for pain scores, quality of life and quality of sleep.

**GROUP-A:**

n=13 patients underwent Hypogastric plexus block with 60% alcohol, non-ionic iodine dye 1ml, 1% lignocaine 2ml, 15cm 22g Quinckey's needle. Patients received rescue analgesics for breakthrough pain according to WHO pain ladder.

**GROUP B:**

n=13 patients who have received palliative analgesics according to institution protocol and WHO pain ladder.

Assessment of the pain scores using Numerical Rating scale (NRS) was done with the help of hospital records, case sheets and follow up notes. Quality of sleep was assessed by asking the duration of hours of sleep with the help of questionnaire method during follow ups.

**RESULTS:**

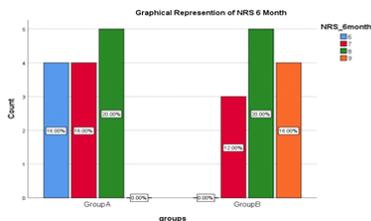
Statistical analysis is done using MannWhitney U test.

**Table 1:**

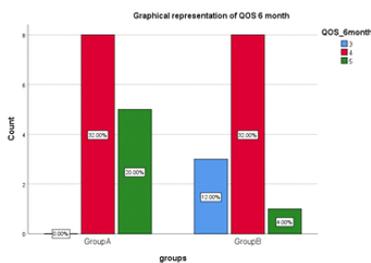
Parameters/scores	NRS Mean	P value	QOS (quality of sleep)	P value
NRS_24hrs	groupA 8.35	0.001	16.19	0.017
	groupB 18.04		9.54	
NRS_1week	groupA 7.96	0.00	16.54	0.006
	groupB 18.46		9.17	
NRS_1month	groupA 7.58	0.00	16.00	0.019
	groupB 18.88		9.75	
NRS_3 months	groupA 7.38	0.00	14.65	0.174
	groupB 19.08		11.21	
NRS_6 months	groupA 9.58	0.011	15.73	0.023
	groupB 16.71		10.04	

Group A had lesser NRS scores when compared to Group B NRS scores. P value is significant at 24hrs, 1week, 1month, 3 month, and 6months with 0.00, 0.00, 0.00, 0.00 and 0.011 respectively.

And quality of sleep is also better in Group A when compared to Group B. p values are significant at 24hrs (0.017), at 1week (0.006), at 1 month (0.019), and at 6months (0.023). p value is not significant at 3months.



**Graph 1: NRS at 6months significantly lesser in Group A when compared to Group B.**



**Graph 2: Patients in Group A had better quality of sleep at 6months when compared to Group B.**

**DISCUSSION:**

In our study we found out that Group A patients who underwent Superior Hypogastric plexus block had lesser NRS scores with significant p values at 24hrs, 1week, 1month, 3 month, and 6months with 0.00, 0.00, 0.00, 0.00 and 0.011 respectively. In a Retrospective study done by Hou S<sup>1</sup> et al in the year 2019 on 46 patients who underwent superior Hypogastric plexus block for cancer related pelvic pain, were assessed NRS pain scores at baseline, at 1month (visit 1) and within 6months (visit 2), they found out that there was a significant reduction in pain score from 6.9 to 5.6 (p= 0.0010) at visit 1 and at visit 2, pain scores were 4.5 with p value of less than 0.0001. In our study we assessed the duration of sleep in hours to know the quality of sleep of the patients, we found out that Group A patients had better quality of sleep when compared to Group B patients with significant p values at 24hrs (p=0.017), at 1week (0.006), at 1month (0.019) and at 6months (0.023) whereas p values were not significant at

3months (0.17). In a study done by xiomiYang<sup>2</sup> et al in the year 2018, 25 female patients underwent CT guided Superior Hypogastric plexus Block for secondary dysmenorrhea in perimenopausal women. They found out that pain intensity significantly decreased with (p <0.05) and anxiety was reduced with better mental condition.

**CONCLUSION:**

This was a Retrospective study done on 25 patients who were diagnosed with lower abdominal malignancies. They were divided in to two groups Group A (n=13) who underwent Superior Hypogastric plexus block and Group B (n=12) who were given only conventional analgesics as per the institutional protocol. It was concluded that:

- 1) Superior Hypogastric plexus block is effective and safe in treating lower abdominal malignancies pain and is superior to conventional analgesics in a long term duration.
- 2) Quality of sleep was better with Superior Hypogastric plexus block.
- 3) Hypogastric plexus with 60% alcohol as an alternative to combat various deterrents that the patient and their family face, reducing cost, side effects, and non-interfering with patients compliance.
- 4) There is a need for larger prospective trials.

**REFERENCES:**

1. Hou, S., Novy, D., Felice, F., & Koyyalagunta, D. (2019). Efficacy of Superior Hypogastric Plexus Neurolysis for the Treatment of Cancer-Related Pelvic Pain. *Pain Medicine*. <https://doi.org/10.1093/pm/pnz151>
2. Yang, X., You, J., Tao, S., Zheng, X., Xie, K., & Huang, B. (2018). Computed tomography-guided superior hypogastric plexus block for secondary dysmenorrhea in perimenopausal women. *Medical Science Monitor*, 24, 5132-5138. <https://doi.org/10.12659/MSM.906970>
3. Aytuluk, H. G., Kale, A., & Basol, G. (2019). Laparoscopic Superior Hypogastric Blocks for Postoperative Pain Management in Hysterectomies: A New Technique for Superior Hypogastric Blocks. *Journal of Minimally Invasive Gynecology*, 26(4), 740-747. <https://doi.org/10.1016/j.jmig.2018.08.008>
4. Mercadante, S. (2019). The Combination of Superior Hypogastric Plexus Block and the Block of the Ganglion Impair in a Patient With Abdominal and Perineal Pain Poorly Responsive to Opioids. *Journal of Pain and Symptom Management*, Vol. 58, pp. e5-e8. <https://doi.org/10.1016/j.jpainsymman.2019.04.001>
5. Liliang, P. C., Hung, C. M., Lu, K., & Chen, H. J. (2018). Fluoroscopically-guided superior hypogastric plexus neurolysis using a single needle: A modified technique for a posterolateral transdiscal approach. *Pain Physician*, 21(4), E341-E345.
6. Mohamed, S. A. E., Ahmed, D. C., & Mohamad, M. F. (2013). Chemical neurolysis of the inferior hypogastric plexus for the treatment of cancer-related pelvic and perineal pain. *Pain Research and Management*, 18(5), 249-252. <https://doi.org/10.1155/2013/196561>
7. Mercadante, S., Klepstad, P., Kurita, G. P., Sjogren, P., & Giarratano, A. (2015). Sympathetic blocks for visceral cancer pain management: A systematic review and EAPC recommendations. *Critical Reviews in Oncology/Hematology*, Vol. 96, pp. 577-583. <https://doi.org/10.1016/j.critrevonc.2015.07.014>
8. Ahmed, D. G., Mohamad, M. F., & Mohamed, S. A. E. (2015). Superior hypogastric plexus combined with ganglion impar neurolytic blocks for pelvic and/or perineal cancer pain relief. *Pain Physician*, 18(1), E49-E56.
9. Mishra, S., Bhatnagar, S., Gupta, D., & Thulkar, S. (2008). Anterior ultrasound-guided superior hypogastric plexus neurolysis in pelvic cancer pain. *Anaesthesia and Intensive Care*, 36(5), 732-735. <https://doi.org/10.1177/0310057x0803600518>
10. Bosscher, H. (2001). Blockade of the Superior Hypogastric Plexus Block for Visceral Pelvic Pain. *Pain Practice*, 1(2), 162-170. <https://doi.org/10.1046/j.1533-2500.2001.01017.x>