

Ganglion Impar Neurolysis for Chronic Cancer Pain of Pelvic - Perineal Region - Retrospective Study

Dr. K. V. D. Praveen¹, Dr. Srija P², Dr. A Sirisha³

^{1,2,3}Mahatma Gandhi Cancer Hospital

Abstract: *Ganglion Impar Block GIB, also known as Walters block, offers a promising solution for managing malignancy - related pelvic - perineal pain. This retrospective study assessed the effectiveness of GIB in 42 patients suffering from cancer - related pelvic and perineal pain, using pre - and post - procedure numerical rating scales. The results demonstrated a substantial reduction in pain scores from 7.8 0.60 to 2.5 0.77, $p < 0.05$ post - procedure, affirming the efficacy of GIB in alleviating pain associated with pelvic and perineal malignancies.*

Keywords: Ganglion Impar Block, chronic pain, malignancy, pain relief, pelvic - perineal pain

1. Introduction

Ganglion impar block or Walter's block is a simple and effective method to treat malignancy related pelvic - perineal pain. In this study we evaluate the efficacy of ganglion impar block for pain relief. This is a retrospective study evaluating 42 patients who underwent Ganglion Impar Block for various cancer related pelvic and perineal pain. Pain scores were assessed and compared pre procedure and post procedure using numerical rating scale. The results showed significant pain relief with pre procedure pain score being (7.8 +/- 0.60) and post procedure pain relief being (2.5 +/- 0.77) ($P < 0.05$). This study concludes ganglion Impar block procedure can help reduce pain associated with malignancy of pelvic - perineal region.

Chronic pain is a major problem in cancer patients and conventional treatment may not provide adequate pain relief in some patients. World Health Organization analgesic ladder recommends control of cancer related pain with non - steroidal anti - inflammatory drugs, opioids, and adjuvants [1]. Sympathetic ganglia blocks are effective in controlling visceral pain [2].

Sympathetic blocks consist of injecting alcohol at 50–100% or phenol at 6–12% to cause neurolysis.

The ganglion impar supplies nociceptive and sympathetic fibers to the perineum and pelvic viscera, including the distal rectum, perianal region, distal urethra, vulva or scrotum, and the distal third of the vagina [3]. Therefore, ganglion impar block can be effective in pelvic and perineal organ cancer - related pain.

The aim of this study is to evaluate the efficacy of GIB in providing pain relief in patients suffering from cancer related pelvic pain.

2. Materials and Methods

Study design: This is a retrospective, observational study evaluating patients who underwent ganglion Impar block (GIB) for malignancies related to pelvic and perineal organs from the period of 2020 to 2022.

2.1 Patient selection

- **Inclusion criteria:** patients with pain score of >7 on Numerical Rating Scale
- **Exclusion criteria:** coagulation disorder, local infection and non cancerous pelvic pain.

2.2 Procedure

Procedure was performed as a day care procedure. Patient was enquired regarding fasting status and informed written consent was obtained. The patient was placed on the table in the prone position with a pillow under the lower abdomen. The intergluteal crease, anus, and surrounding area were prepared and draped in a sterile fashion. Under fluoroscopic guidance a 10cm, 22G needle was introduced, using the loss of resistance method, the needle was advanced through the vertebral disc until the needle tip was placed anteriorly to the ventral sacrococcygeal ligament. inserted via. After confirming needle placement by dye spread in lateral (fig 1) and antero - posterior view, 4 - 5ml of 70–80% alcohol was injected. One ml air is injected before withdrawing the needle and 50mg of inj ceftriaxone was injected inside the disc before withdrawing completely.



Figure 1

Volume 12 Issue 12, December 2023

www.ijsr.net

Licensed Under Creative Commons Attribution CC BY

Post procedure, patient was monitored for a minimum of 2 hours to observe for any immediate complications like hypotension. Side effects were noted and managed promptly.

2.3 Assessment

- Pain relief was assessed and compared with pre procedure pain using numerical rating scale.
- Pain relief period and adverse effects were also documented and assessed.

2.4 Statistical assessment

We used SPSS for Windows, version 16 (Chicago, IL) for the statistical evaluation of data. The bar graphs were demonstrated with Microsoft Excel 2010. Qualitative variables were presented as number and percent. Quantitative data were presented as mean \pm standard deviation (SD). Student paired T test was used to compare pain relief in patients undergoing GIB. Our study consisted of 42 patients with mean age of 50 year.

In our study, pre - procedure, all patients had pain scores greater than 7 on NRS. Post procedure there was excellent pain relief in 20 patients (75% - 100% reduction) and good pain relief in 22 patients (50 - 75% reduction). the mean baseline NRS score of the patients was (7.8 \pm 0.60) which decreased to (2.5 \pm 0.77) Post procedure, pain relief was statistically significant ($p < 0.05$). (fig 2)

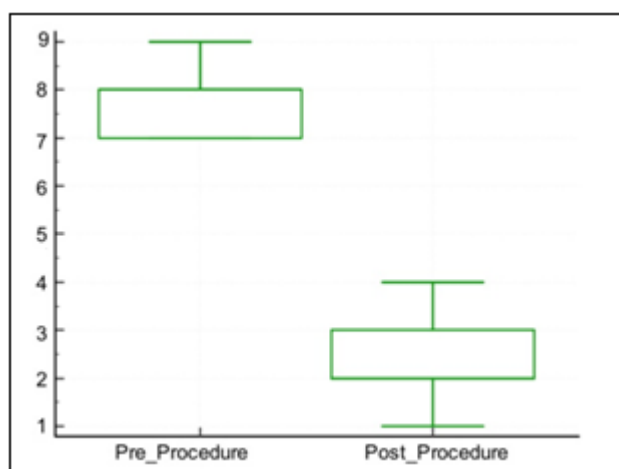


Figure 2

Pain relief post procedure was mean of 6.85 months with almost 6 patients having pain relief of over one year.

No complications were recorded during and post procedure.

3. Discussion

Plancarte et al. in 1990, first described Ganglion impar block (GIB) for cancer pain involving perineum. [4] The study used Gastrointestinal approach to the ventral region of the sacrococcygeal junction through the anococcygeal ligament under fluoroscopic guidance. This approach had high risk of rectal tearing.

Further studies described newer approaches like sacrococcygeal, transcoccygeal under fluoroscopic guidance [5 - 8] In our study we used fluoroscopic guided sacrococcygeal approach. GIB can also be performed under CT guidance which provides better quality of imaging and hence a much safer technique. [9, 10]. Ultrasound guidance allows the identification of the sacrococcygeal space and the location of the retroperitoneal space, with loss of resistance [11 - 13] but administration of a neurolytic agent requires verification of the distribution of the contrast medium in the retroperitoneal space hence our study was performed under fluoroscopic guidance which is economical.

GIB has been most studied and has shown to be most effective in coccydynia. Where performing single GIB or series with corticosteroids, or with the use of radiofrequency has shown to be effective in controlling the symptoms [14 - 16].

In the study conducted by Plancarte et al [4] GIB was performed in 16 patients presenting with advanced malignancies and significant pelvic pain with a 60% reduction in pain symptoms in half of the patients.

Eker et al. [17] described an improvement of more than 60% in pain after completion of GIB in 3 patients diagnosed with rectal malignant neoplasia and perineal pain.

Bhatnager S, Khanna S, Roshni S et al (2012) studied 6 patients with pelvic and gastrointestinal carcinomas of advanced stages, presented with a reduction of pain evaluated by visual analogue scale (VAS), and statistically significant at 2 - month follow - up [13].

In our study, consisting of 42 patients who underwent GIB procedure for pelvic cancer pain. 20 patients had excellent pain relief (>75% pain reduction) and rest had good pain relief (>50% pain reduction) with mean duration of pain relief >6 months.

4. Limitations

The study is a retrospective study. We did not assess analgesic usage and improvement of quality of life.

5. Conclusion

GIB is a safe and easy procedure to provide significant pain relief in patients with chronic pain caused by malignancy of pelvic and perineal structures. Randomised, prospective studies are required.

References

- [1] World Health Organization (1996) Cancer pain relief, 2nd edn
- [2] Gunduz O, Kenis - Coskun O (2017) Ganglion blocks as a treatment of pain: current perspectives. J Pain Res 10: 2815-2826
- [3] Scott - Warren JT, Hill V, Rajasekaran A. Ganglion impar blockade: a review. Curr Pain Headache Rep.2013; 17: 306

- [4] Plancarte R, Amescua C, Patt RB et al (1990) Presacral blockade of the ganglion of Walther (ganglion impar). *Anesthesiology*.73: A751
- [5] Wemm K Jr, Saberski L (1995) Modified approach to block the ganglion impar (ganglion of Walther). *Reg Anesth* 20: 544–545
- [6] Foye PM, Buttaci CJ, Stitik TP, Yonclas PP (2006) Successful injection for coccyx pain. *Am J Phys Med Rehabil* 85: 783–784
- [7] Hong JH, Jang HS (2006) Block of the ganglion impar using a coccygeal joint approach. *Reg Anesth Pain Med* 31: 583–584
- [8] Foye PM (2007) New approaches to ganglion impar blocks via coccygeal joints. *Reg Anesth Pain Med* 32: 269
- [9] Oh CS, Chung IH, Ji HJ, Yoon DM (2004) Clinical implications of topographic anatomy on the ganglion impar. *Anesthesiology*.101: 249–250
- [10] Datir A, Connell D (2010) CT - guided injection for ganglion impar blockade: a radiological approach to the management of coccydynia. *Clin Radiol* 65: 21–25
- [11] Lin CS, Cheng JK, Hsu YW, Chen CC, Lao HC, Huang CJ, Cheng PH, Narouze S (2010) Ultrasound - guided ganglion impar block: a technical report. *Pain Med* 11: 390–394
- [12] Johnston PJ, Michálek P (2012) Blockade of the ganglion impar (walther), using ultrasound and a loss of resistance technique. *Prague Med Rep* 113: 53–57
- [13] Bhatnager S, Khanna S, Roshni S et al (2012) Early ultrasound - guided neurolysis for pain management in gastrointestinal and pel - vic malignancies: an observational study in a tertiary care center of urban India. *Pain Pract* 12 (1): 23–32
- [14] Karaman H, Tüfek A, Kavak GO, Yildirim ZB, Celik F (2011) Would pulsed radiofrequency applied to different anatomical regions have effective results for chronic pain treatment? *J PakMed Assoc* 61: 879–885
- [15] Demircay E, Kabatas S, Cansever T et al (2010) Radiofrequency thermocoagulation of ganglion impar in the management of coccydynia: preliminary results. *Turkish Neurosurg* 20: 328–333
- [16] Patijin J, Janssen M, Hayek S et al (2010) Coccydynia. *Pain Pract* 10: 554–559
- [17] Eker HE, Cok OY, Kocum A, Acil M, Turkoz A (2008) Transsacrococcygeal approach to ganglion impar for pelvic cancer pain: a report of 3 cases. *Reg Anesth Pain Med* 33: 381–382