



Ganglion Impar block through Transsacrococcygeal Approach For Management Of Chronic Perineal Pain

Dipika Patel, Nita Gosai

Department of Anaesthesia Gujarat Cancer and Research Institute, Civil Hospital, Ahmedabad, Gujarat India

ABSTRACT

The ganglion Impar is an unpaired sympathetic structure located at the level of the Sacrococcygeal joint. The modified technique replaced the previously using technique of the Impar block via the horizontal approach through the anococcygeal ligament. Modified technique of Ganglion Impar block through transsacrococcygeal approach is easy to perform and give maximum pain relief with margin of safety.

Aims and objectives To study, 1) Ease and complications of Impar block through trans- sacrococcygeal approach 2) The analgesic efficacy of Impar block, 3) Duration of analgesic effect of Impar block

Method In this retrospective study, 15 patients who had chronic perineal pain had given ganglion Impar block.., The ganglion Impar block was given through trans-sacrococcygeal approach, After written and informed consent, patient was asked to lie down on his abdomen, facing down with a pillow under the pelvis to help flatten out the lower lumbar spine's natural curvature. Skin was infiltrate with local anaesthetic, after proper aseptic precautions. The needle is advanced under fluoroscopy guidance until correct needle placement is obtained. Once position is confirmed, therapeutic block is performed with administration of 2ml of 100% absolute alcohol after confirming 50% reduction in VAS from baseline with diagnostic block (0.125% Bupivacaine 5 ml). Attempts of procedure were recorded in all patients. VAS was assessed after 12 and 24 hours. Patients were discharged after 24 hours, asked to report every week and whenever VAS is more than 4 for 3 months **Result** Fifteen patients with advanced cancer with perineal pain who were not responding to pharmacotherapy treatment received a neurolytic ganglion Impar block through trans-sacrococcygeal approach. Thirteen Patients were not needed any medication. Two patients were needed Tab Morphine after 2 weeks of block. All the blocks were effective without any adverse events. All the patients had significant pain relief during 3 months follow up ($P < 0.001$ compared to baseline). **Conclusion** Ganglion Impar block through trans-sacrococcygeal approach is feasible technically and safe. It is recommended for chemical neurolysis or radiofrequency ablation of the ganglion Impar for chronic perineal pain.

Keywords: chronic perineal pain, Ganglion Impar block, trans-sacrococcygeal approach

*Correspondence to Author:

Nita Gosai

Department of Anaesthesia Gujarat Cancer and Research Institute, Civil Hospital, Ahmedabad, Gujarat India

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Introduction

Chronic Perineal pain occurs due to Cancer of cervix, prostate, testis, colon and rectum, Post herpetic neuralgia of sacrum, Malformation of spinal cord, Protrusion of Vagina, Failed back surgery syndrome, Testicular ablation

The ganglion Impar is an unpaired sympathetic structure located at the level of the Sacrococcygeal joint. It is also called the ganglion of Walther. There are various approaches to Ganglion Impar block.

In 1990, Plancarte et al¹ first described a conventional approach through anococcygeal ligament, they used curved spinal needle which make technique very difficult and increase the risk of injury to rectum and blood vessels and high failure rate. Other techniques like Trans-

sacrococcygeal approach, anococcygeal approach, Para coccygeal cork screw approach and paramedian approach. Modified technique of Ganglion Impar block through transsacrococcygeal approach is easy to perform and give maximum pain relief and lesser incidence of visceral injuries.

Ganglion impar block through trans-sacrococcygeal approach is feasible technically and safe.^{2,3}

It is recommended for chemical neurolysis or radiofrequency ablation^{4,5} of the ganglion impar for chronic perineal pain and for diagnostic blocks, especially when the diagnosis and further plan of management is dependent on the response of the diagnostic block.

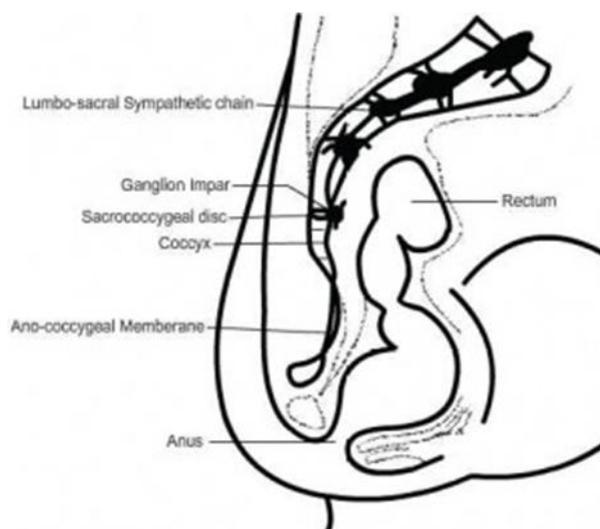


Fig :1 Anatomy of Impar ganglion

The ganglion Impar is the only unpaired autonomic ganglion in the body and it is the end of the two sympathetic chains. The impar ganglion's postganglionic fibres pass along the gray rami communicants to the sacral and coccygeal spinal nerves.

It is located anterior to the sacrococcygeal joint in the retro peritoneum. Though, Oh et al. (2004) found that the location, shape, and size of the ganglion Impar are variable. After doing 50 Sacral and Coccyges anatomical dissections, the authors found that the location of the

ganglion Impar can range from the sacrococcygeal junction to approximately 10mm anterior to the tip of the coccyx, with the majority of the ganglia Impar being located approximately 25-30mm anterior from the tip of the coccyx.^{6,7} This anatomical variation may affect the efficacy of this nerve block in some patients.

The ganglion Impar receives afferent pain fibres from the perineum, distal rectum, anus, distal urethra, vulva, and distal third of the vagina this block can potentially alleviate pain originating from the above mentioned regions.

Aims and objectives

To study,

- 1) Ease and complications of Impar block through trans- sacrococcygeal approach
- 2) The analgesic efficacy of Impar block,
- 3) Duration of analgesic effect of Impar block,

Material and Method

In this prospective study, 15 patients who have chronic perineal pain due to various pelvic cancers were given ganglion impar block using a trans-sacrocoxygeal approach and done follow up for 3 months. All patients were complaining of severe burning pain with a VAS of 6-7/10 at presentation. All patients were on higher dose of Tab Morphine. Because of chronic perineal pain some patients complained of disturbed sleep. Some patients had painful defecation and constipation.

Patients with local skin infection, who had undergone coccyx surgery, sacrococcygeal joint fusion and with bleeding disorders were excluded. After approval of Ethical committee & informed written consent, procedures were planned.

A 20 Gauge venous access was secured and basic monitoring likes ECG, NIBP and SpO2 done.

In this technique patient is asked to lie down on his abdomen, face down with a pillow under the pelvis. Patient's lower back and inter-gluteal cleft is prepared and draped in a sterile manner. After adequate local anaesthesia, 22G spinal needle was advanced slowly through the cleft of the Sacrococcygeal joint under fluoroscopy guidance until correct needle placement is obtained. During this step, one can frequently

feel loss of resistance indicating placement of the needle tip anterior to the ventral sacrococcygeal ligament. Needle's tip position was confirmed by injecting 1 ml of contrast dye. Once position is confirmed, therapeutic block is performed with administration of 2ml of 100% absolute alcohol after confirming 50% reduction in VAS from baseline with diagnostic block (0.125% Bupivacaine 5 ml). Attempts of procedure were recorded in all patients.

VAS was assessed after 12 and 24 hours. Patients were discharged after 24 hours, asked to report every week and whenever VAS is more than 4 for 3 months

Results

15 patients with advanced cancer (colon and rectal , endometrial , bladder , cervical) with perineal involvement (localized perineal pain with burning and a sensation of urgency) and who have minimal response to pharmacotherapy received a neurolytic ganglion Impar block..

The mean age of the patients was 60±12 years. Out of 15, 11 patients were male and 4 were female. Mean VAS of pain at presentation was 7.6 ± 0.83. In Thirteen patients, block was performed easily with single attempt. In two patients, little bit force was needed to introduce the needle through sacrococcygeal joint with second attempt. All the blocks were effective with no adverse events. Thirteen Patients were not needed any medication after block while Two patients were needed Tab Morphine after 2 weeks of block. All the patients had significant pain relief during 3 months follow up (P<0.001 compared to baseline).

Table I: Diagnosis

DIAGNOSIS	NO. OF PATIENTS
CA RECTUM	8
CA ANAL CANAL	5
CA VAGINA	2

Table II : Vas Score

	Vas Score(Mean±SD)
Pre procedure	7.6 ± 0.83
Post procedure after 12 hours	4.40 ± 0.50
Post procedure after 24 hours	2.87 ± 0.83

Table III: Three months follow up

	No of patients
Patients not needed any medication	13
Patients needed tab Morphine after 2 weeks of block	2

**Image 1 fluroscopic picture of impar ganglion with needle in situ**

Discussion

A ganglion Impar block can be used to treat acute or chronic perineal pain. Various methods exist to block the ganglion Impar, such as local anaesthetic drugs, concomitant use of local anaesthetics and steroids, alcohol or phenol, and neurolysis by RFT⁴

Agarwal-Kozlowski et al. (2009) evaluated the efficacy of the ganglion Impar block on perineal pain of various aetiologies in 43 patients. In this study the authors reported a reduction of patients' pain scores from 8.2±1.6 to 2.2±1.6 (P<0.0001, 95% confidence interval 0.5) immediately after neuroablation of the ganglion Impar and maintained this pain relief throughout 4 month followup.⁸

Toshniwaletal. and Dureja GP (2007) had similar success in their 16 patients with chronic perineal

pain. All of the ganglion Impar blocks performed reduced VAS pain scores by 50% and the authors highlight that all the patients had significant pain relief at the 2 month follow up with the mean VAS score being approximately.⁹

Chia-Shiang Lin, MD Jen-Kun Cheng, MD, PhD (2010) had given technical report on Ultrasound guided Ganglion Impar Block. They had given USG guided block in 15 patients and concluded that In cases where the cleft cannot be readily seen on AP and lateral fluoroscopy, ultrasound to be of assistance. Ultrasound does not replace fluoroscopy, because lateral fluoroscopy is still required to establish safe depth, and correct site of injection. However, ultrasound can be helpful when fluoroscopy alone is insufficient.¹⁰

Munir MA Zhang J Ahmad M. at el (2004) described a modified needle-inside-needle

technique for the ganglion Impar block. first A 22-gauge (G), 1½-inch (38 mm) needle is introduced through the sacrococcygeal ligament under fluoroscopy via the sacrococcygeal disc, then A 25-G, 2-inch (50 mm) needle is introduced through the 22-G needle. They used shorter (5 cm) needle to avoid breakage of needle, rectal perforation and easy to perform radiofrequency ablation of ganglion.¹¹

In our study, 15 patients with chronic perineal pain received Impar block by transsacrococcygeal route. VAS score reduced by 7.6+/-0.83 to 2.87+/-0.83(P<0.001) and maintain pain relief for 3months in 13 patients. Two patients need tablet morphine for breakthrough pain.

Larger studies with randomized control groups would improve the level of evidence supporting the findings in this retrospective observational study.

Conclusion

Ganglion Impar block through trans-sacrococcygeal approach is feasible technically and safe. It is recommended for chemical neurolysis or radiofrequency ablation of the ganglion Impar for chronic perineal pain.

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