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CASE REPORT

# Transsacrococcygeal neurolytic block of ganglion impar in vulvar carcinoma: a case report

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## ABSTRACT

Introduction: Ganglion impar block is used to overcome chronic perineal pain problem. The ganglion block has been used to treat perineal pain or severe perianal pain. This case report presents the success of ganglion impar blocks in a patient with vulvar cancer experiencing chronic pain which failed to respond to pharmacotherapy. We used alcohol for chemical neuolysis of ganglion impar through transsacrococygeal route. The pain scores decreased significantly and there were no complications. We conclude that the ganglion impar block is an effective therapy for perineal pain management in patients with malignant vulvar cancer, and can be used with other treatment modalities including pharmacotherapy, psychological counseling and physical therapy to optimize the management in this group of patients.

**Key words:** Transsacrococcygeal; Neurolytic; Ganglion impar; Carcinoma.

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## INTRODUCTION

Perineal pain is a common problem, especially in women (2:1). It is categorized into acute and chronic pains. The chronic perineal pain is relatively difficult to treat because the perineum consists of various anatomical structures, sympathetic nerves and somatic nerve fibers.[1] To treat perineal pain, ganglion impar block has been introduced. The ganglion impar is a solitary retroperitoneal structure located in the sacro-coccygeal junction with varying position in the pre-coccygeal space marked by the end of sympathetic chain.[2]

The ganglion impar block (Ganglion Walther) was first reported by Plancarte R et al. using a curved needle in perineal neuralgia of pelvic cancer.[3] Since then, ganglion impar blocks are used to treat diseases, such as perineal pain or severe perianal pain. The perineal pain may arise from the perineum, distal rectum, anus, distal urethra, vulva and distal vagina. This case report presented the success of ganglion impar blocks for patients with vulvar cancer experiencing chronic pain which failed to respond to pharmacological therapy alone.

## CASE REPORT

A 72-year female patient suffered from a vulvar carcinoma and complained of vaginal and perineal pain for the last one year. The patient had undergone chemotherapy and was treated with Tab morphine sulphate (MST), NSAIDs and paracetamol for her pain. However, her pain could not be reduced and the patient complained of getting bored of taking medicine every day. The patient could not do the activity comfortably due to the persistent pain. A colleague gynecologist performed radical vulvectomy as the tumor got bigger. Two days after the surgery, she still had pain and it got worse. The patient was referred to the anesthesiology department.

On initial examination, her general condition was weak and she felt pain with blood pressure of 186/100

mmHg and arterial pulse of 103/min. The high blood pressure and heart rate were a result of her severe perineal pain. Visual analogue scale (VAS) score was 7-8. The complaint relieved with a 50 $\mu$g/h fentanyl infusion and the VAS score dropped to 4–5. The patient and her family were explained the procedure of the intended block they signed the informed consent. After that the ganglion impar block was performed by transsacrocoocygeal joint approach, assisted by fluoroscopy.

The patient was positioned prone on the operating table. Blood pressure, arterial pulse and oxygen saturation were monitored in accordance with standard operating procedures. The point of needle insertion was determined by palpation of the sacral cornu and was evaluated by fluoroscopy. A 22G needle was inserted 5 cm deep from the skin piercing the dorsal sacrococcygeal ligaments in the midline guided by fluoroscopy at AP position. Using a loss of resistance technique, the needle was inserted into the vertebral disc until the needle was at the anterior part of the ventral sacrococcygeal ligament. The needle tip position was confirmed by injecting a 3 ml of water soluble iodinated contrast solution in the retroperitoneal space. The spread of contrast showed "apostrophe" appearance in the lateral position[4] (Figure 1).

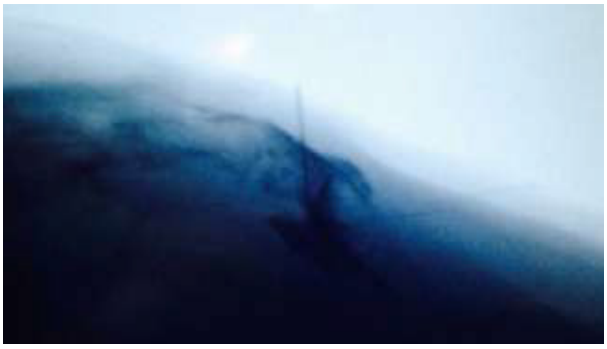

**Figure 1: Spread of anterior contrast from sacrum and coccyx**

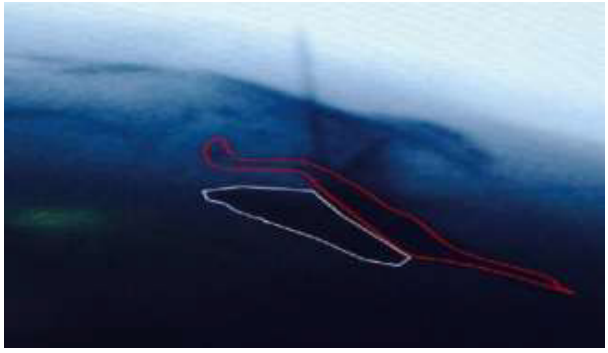

**Figure 2: The injectate spread to the expected space**

A diagnostic block was performed with 3 ml of lignocaine 1%. Evaluation after 15 min confirmed the relief of perineal pain as quoted by the patient decreased. After it was confirmed that the diagnostic block was positive, 8 ml of 96% alcohol was injected for the ganglion impar sympathetic neurolysis was accomplished.

No complication, such as hypotension, bleeding, drug allergies or seizures, was observed during the procedure. The patient was monitored for 2 h after the administration. The evaluation on the first post-procedure day revealed that the patient felt hot in the perineal area, yet the pain reduced considerably with VAS 2-3. On the second day, the patient could walk painlessly. There were no complications observed resulting from the institution of ganglion impar block. The patient was discharged home on the third day, and she was now capable of performing his routine daily activities.

## DISCUSSION

Chronic perineal pain constitutes a pain that is difficult to treat and it is a challenge for the clinicians. This is because the perineum has a complex anatomy, and is supplied by sympathetic nerves and somatic nerves. The chronic perineal pain is defined as continuous pain for 6 months or longer in the perineum.[5,3] The neural structure in the area is the ganglion impar. The ganglion controls sympathetic and nociceptive nerves for perineal, distal rectal, perianal, distal urethral and vulvar areas.[6] This report presents the case of pain in vulvar cancer that has not been described previously. The indication of ganglion impar in the patient is the chronic pain of perineal area.

We used the transsacrococcygeal technique for its simplicity and effectiveness. The transsacrococcygeal approach for chronic pain management has shown promising results with minimal or no complication. This approach for ganglion impar block is simple and safe technique and is an alternative technique for cancer pain in the perineum.[1,7]

Neurolysis for ganglion impar block may be done by using either 6% phenol or alcohol. We prefer alcohol because it destroys the nerve cells more effectively and its block effect is stronger and stays longer than phenol. Cha et al. reported a case of 42-year female with the pain in the coccygeal area after excision of the arachnoid cyst. The impar block with absolute alcohol and transsacrocogcygeal technique reduced the pain without complications.[4]

After the treatment, the pain felt by the patient was reduced as evaluated with VAS. The VAS before

the treatment was 7–8 and after VAS treatment it was 2–3. On the second day after the treatment, the patient could walk with no complaint of pain. The use of impar block has been effective in reducing the pain in 16 patients with chronic perineal pain. Transsacrococcygeal block with neurolytic phenol can reduce VAS upto 50%.[1]

It is expected that the neurolytic effect on this patient can be long-lasting thus VAS evaluation is required during the follow up period. Accordingly, the capability of this block to relieve pain can be better understood and recorded. According to Toshiwal et al., this block can relieve pain for up to 2 months.1 It is also expected to reduce opioid usage. Ahmed et al. indicated that the combination of superior hypogastric plexus block and ganglion impar block are able to decrease morphine consumption in 1 week in 15 patients with cancer pain in the pelvis and perineum.[2] However, the pain due to metastasis to a higher area will need other methods of management. A combined pain management plan with pharmacotherapy, pudendal nerve block, ganglion impar neurolysis and topical preparation application for chronic pelvic pain can be adequate when specific therapy fails.[8]

## CONCLUSION

This case report describes the efficacy of ganglion impar block with chemical neurolysis techniques with a transsacrococcygeal approach guided by fluoroscopy for the patient with vulvar carcinoma. The ganglion impar block is an effective therapy for treating perineal pain in patients with vulvar malignancy, with no associated complications in the patient. Other treatment modalities, including pharmacotherapy, psychological counseling and physical therapy will further optimize the management for the patients.

**Conflict of interest:** Nil declared by the author

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