ORIGINAL RESEARCH PAPER
Volume - 12 | Issue - 02 | February - 2023 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

EFFECTIVENESS OF TRANS-COCCYGEAL GANGLION IMPAR BLOCK FOR DIAGNOSTIC AND THERAPEUTIC MANAGEMENT OF COCCYDYNIA

Orthopaedics

Dr Dinesh Kumar Suganathan — Junior Resident, Department of Orthopaedics, Chettinad Hospital and Research Institute,

Dr Pradeep Elangovan — Associate Professor, Department of Orthopaedics, Chettinad Hospital and Research Institute,

Dr Krishnavel Thavasianantham — Junior Resident, Department of Orthopaedics, Chettinad Hospital and Research Institute,

Prof. Dr. Malick Batcha Sathik Babu* — Professor & HOD, Department of Orthopaedics, Chettinad Hospital and Research Institute, *Corresponding Author

ABSTRACT

Introduction: Pain in the terminal portion of the spine from improper sitting and standing posture is referred to as coccydynia. Coccydynia is typically treated conservatively, whereas in individuals who are unresponsive, ganglion impar block is a useful alternative pain management. In patients with coccydynia who did not experience relief from conservative treatment, the effect of ganglion impar block is examined in this paper. **Methods and materials:** The study was carried out with 20 patients selected prospectively with Coccydynia. All patients underwent trans-sacro-coccygeal ganglion impar block after getting proper consent. The outcome was assessed using Visual analog score and Oswestry Disability Index. **Results:** With a mean age of 42.9 + 8.39 years, the patients' ages ranged from 28 to 57 years old. The mean VAS and ODI scores were 7.95 and 55, respectively, prior to the surgery. The post-block pain intensity was considerably less intense than the pre-procedure baseline value of both indices for the course of the 6-week follow-up period. **Conclusion:** Our study demonstrates the long-term efficacy of trans-coccygeal ganglion impar block for patients with coccydynia in relieving pain.

KEYWORDS

Coccydynia, VAS, ODI, Ganglion impar block.

INTRODUCTION

Pain in the terminal region of the spine is referred to as coccydynia and was originally documented by Simpson in the 19th century.[1] The effectiveness of coccydynia treatment varies greatly. It is unclear whether therapy outcomes are influenced by any foreseeable patient factors. Despite the existence of numerous techniques, such as physical therapy, local infiltration of local anaesthetics and steroids, caudal epidural block, and neurolysis of the sacral nerve root, there are no established treatment standards. Additionally, coccygectomy is not advised due to issues including a high infection rate.[2] The end of the two sympathetic chains is marked by the ganglion impar (GI), a single retroperitoneal structure that is situated at the level of the Sacro-coccygeal junction with a variable position in the pre-coccygeal region. To increase technical feasibility and eliminate the danger for visceral injuries with a standard procedure, Wemm and Saberski created a trans-sacrococcygeal approach to a GI block, which is simple to do and is thought to be extremely rapid.[3] It happens when the pain from a tailbone fracture goes from being dull to quite sharp. Patients with coccydynia frequently lament pain while defecating and while sitting in a hard chair. Their daily lives are significantly impacted by the force to the coccyx.[4,5] There are several causes of coccydynia. This might happen following a trauma, a fracture or contusion, or a challenging vaginal delivery. The aetiology may also include bursitis on the coccydynia periosteum or chronic microdamage to the coccyx caused by poor posture. Furthermore, the cause of coccydynia is frequently unknown, and it is associated with body mass index.[5,6]

MATERIALS AND METHOD:

After receiving approval from the institutional ethical committee, this prospective study was carried out in the Department of Orthopaedics at a tertiary care centre – Chettinad hospital and research institute in Kelambakkam, Tamil Nadu, India. After receiving their informed consent, patients with chronic coccygeal pain lasting more than three months who did not respond to conservative treatment (NSAIDs, modified cushions, and TENS) were enrolled in the study. The particular inclusion requirements were coccygeal discomfort lasting longer than three months without any aberrant laboratory or imaging results to support the pain. Patients with localised skin infections, those who had undergone sacrococcygeal joint fusion or coccygectomy, those with bleeding disorders, uncontrolled diabetic mellitus despite treatment, and women who were pregnant were excluded. The analysis did not include the individuals who were missed for follow-up on successive visits.

A total of 20 patients were initially enrolled who were eligible for the fluoroscopy-guided trans-coccygeal ganglion impar block and met the aforementioned inclusion and exclusion criteria. To rule out diabetes, illness, and any coagulation disorders, each patient got a thorough examination and all standard diagnostics. For the purpose of identifying any bone anomalies, all patients had their coccyx radiographed from the anteroposterior (AP) and lateral views.

All patient were undergone for fluoroscopy-guided trans-Sacro-coccygeal ganglion impar block after getting proper consent and pre – op work ups and they were analysed using VAS [figure 1]and ODI [figure 2] scoring system. Oswestry Disability Index is based on the questionnaire such as pain intensity, personal care (e.g, washing, dressing), lifting, walking, sitting, standing, sleeping, social life, travelling and recreational activities for employment/homemaking. The scores were classified under no disability, mild, moderate, sever and complete.

TABLE – 1

Score	Disability level
0-4	No disabiltity
5-14	Mild
15-24	Moderate
25-34	Severe
35-50	Complete

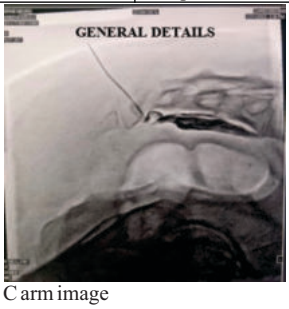

Figure 1: Intra op C arm image

Figure 2: Visual Analog Scale

After an hour of observation to look for any post-interventional issues, the patients were released from the hospital the same day after receiving the blocks as a day care treatment.

RESULTS:

Data from 20 patients who had trans-sacrococcygeal ganglion impar block and completed the follow-up period were analysed in the current study. In this study, the male to female ratio was 42.2% and 57.8%, respectively. The patients ranged in age from 28 to 57 years, with a mean age of 42.9 + 8.39 years. 38.7% of the total patients enrolled in the trial had a proven history of trauma (falling on the coccyx area). Over 50% of the patients had a history of taking long travels on the public transportation system. Ganglion impar block was given to each patient just once.

Before the procedure, the mean VAS and ODI scores were 7.95 and 55, respectively. Following the treatment, the patients' VAS scores substantially fell, indicating a considerable reduction in pain for majority of the patients. The same held true for the ODI results demonstrating the efficiency of the ganglion block. Throughout the 6-week follow-up period, the post block pain intensity was significantly lower than the baseline pre procedure value of both indices.

Three patients (7.7%) had transitory paraesthesia in the early postoperative phase during the follow-up period. All three of these patients had full recovery within a month of surgery. Another problem was the postoperative local discomfort that persisted in 4 patients (10.3%), although it was successfully treated with medicine. In 4 individuals (10.3%), coccydynia recurrence was found. These individuals received no more surgical surgery, and despite receiving medical care, the coccydynia persisted. During the observation period, there were no more issues.

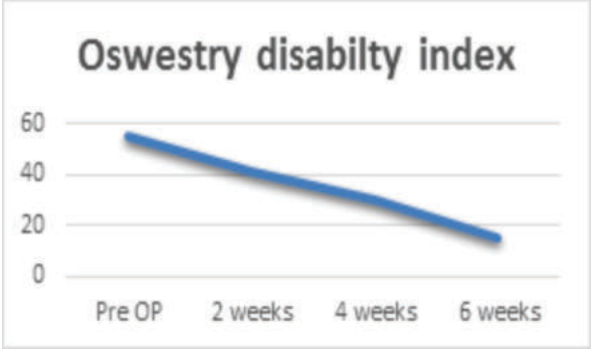

Figure 3: Graph For Oswestry Disability Index

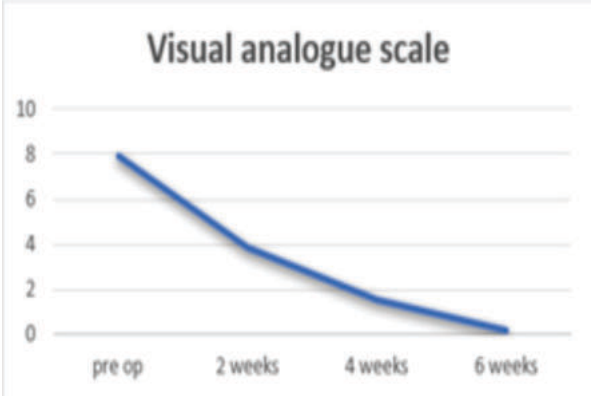

Figure 4: Graph For Visual Analogue Scale

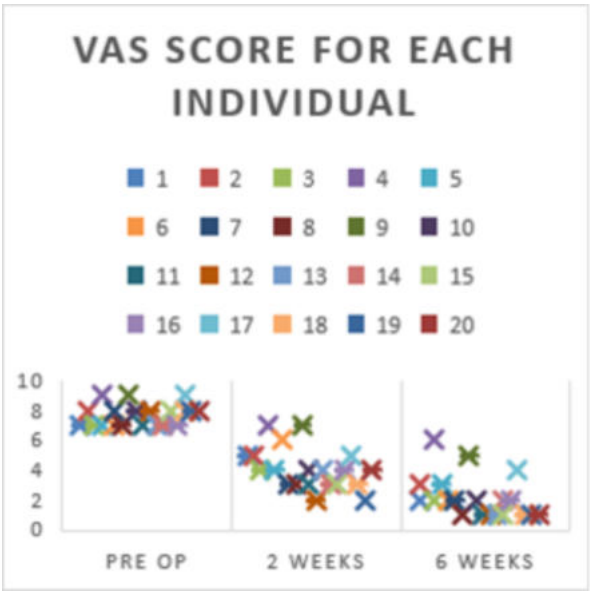

Figure 5: VAS Score Of Each Individual

DISCUSSION:

Around the coccyx, there is a discomfort called coccydynia that radiates to the sacral and perineal region. Pain frequently has no identified origin. In comparison to men, women have coccydynia five times more frequently. Women may be more susceptible to this condition because of their more posteriorly positioned sacrum and coccyx. Pain can also result from a sacrococcygeal ligament damage during vaginal birth. Sprains rather than fractures are more frequent due to the sacrococcygeal ligament's support of the movable coccyx. Chronic coccyx sprain can also be brought on by microtraumas brought on by improper body alignment when sitting. However, because the source of the pain is frequently idiopathic, rigorous differential diagnosis is required.

The Trans-Sacro-Coccygeal technique used in this study to treat the ganglion is superior to the classical and paramedian approaches and is a technically sound, simple to use approach. Compared to surgical therapy, this approach carries a low risk. By using painstaking care, it is possible to prevent the consequences of this approach, which include neuritis and accidentally injecting the neurolytic substance into the rectum. Each patient simply needed one straightforward try. Wemm and Saberski[3] first described the method, which Nebab and Flonehce later improved.[7]

In order to prevent recurrence, the patients were also recommended to engage in additional preventive measures and exercise, such as pelvic floor exercises, kneeling groin stretches, and pyriformis stretching. All of the patients received instruction on proper posture when seated for extended periods of time. Since obesity is a significant cause of coccydynia, patients were encouraged to live a healthy lifestyle and given advice on effective weight-loss techniques.

The lack of a control group for comparison was the study's limitation. Given the available resources, the follow-up time was just 6 weeks; however, if it had been longer, more information may have been gathered to evaluate the long-term effects of ganglion impar block.

CONCLUSION:

Our study demonstrates the long-term efficacy of trans-coccygeal ganglion impar block for patients with coccydynia in relieving pain. To extend the time without discomfort, ganglion impar block may need to be combined with other rehabilitation techniques, such as ergonomic alteration. Larger trials with randomised control groups can be organised to produce high-level evidence. This method may also be utilised to palliatively treat pelvic malignancies that are causing persistent perineal discomfort by radiofrequency ablation of the ganglion impar or neurolysis of the affected area.

REFERENCES:

1. Lirette LS, Chaiban G, Tolba R, Eissa H. Coccydynia. An overview of the anatomy, etiology, and treatment of coccyx pain. Ochsner J 2014;14:84-7.
2. Maigne JY, Doursounian L, Chatellier G. Cause and mechanism of common

coccydynia: role of body mass index and coccygeal trauma. Spine (Phila Pa 1976) 2000;25:3072-9.
3. Wemm K Jr, Saberski L. Modified approach to block the ganglion impar (ganglion of Walther). Reg Anesth 1995;20:544-5.
4. Fogel GR, Cunningham PY, Esses SI. Coccygodynia: evaluation and management. J Am Acad Orthop Sur 2004;12:49-54.
5. Toshniwal GR, Dureja GP, Prashanth SM. Transsacrococcygeal approach to ganglion impar block for management of chronic perineal pain: A prospective observational study. Pain Physician 2007;10:661-6.
6. Reig E, Abejón D, del Pozo C, Insausti J, Contreras R. Thermocoagulation of the ganglion impar or ganglion of walther: description of a modified approach. Preliminary results in chronic, nononcological pain. Pain Pract 2005;5:103-10.
7. Nebab EG, Florence IM. An alternative needle geometry for interruption of the ganglion impar. Anesthesiology 1997;86:1213-4.