

Case report

Splanchnic Nerve Block as a Bridge Therapy in Painful Chronic Pancreatitis During COVID 19 Pandemic: A Case Report

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Abstract

Agonizing and debilitating pain is what most patients with chronic pancreatitis endure. Chronic pain often leads to depression and poor quality of life. Surgical decompression can result in permanent pain relief by reducing intraductal hypertension. Elective surgical procedures had to be postponed during the Covid-19 pandemic as the resources, including oxygen supplies, workforce, and ventilators, were dedicated to the service of Covid-19 patients. We present a case of 20 year-old-male suffering from severe abdominal pain due to chronic pancreatitis refractory to analgesic medications. Given the refractory pain and inability to proceed with surgery due to the pandemic, we subjected him to undergo splanchnic nerve block (SNB) with local anesthetic and steroid. SNB provided adequate analgesia and enabled the patient to tide over the crisis. To our knowledge, no case has been reported using a combination of local anesthetic and steroid in SNB for a patient with chronic pancreatitis.

Keywords: Chronic pancreatitis, Splanchnic nerve block, Covid-19 pandemic

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Introduction

Chronic pancreatitis presents with debilitating abdominal pain in 80- 90% of the patients and is associated with depression, anxiety, and poor quality of life (1, 2) Pain can be severe enough to warrant hospital admission. Pain in chronic pancreatitis is primarily due to obstruction of the ducts by fibrosis and calculi, which leads to intra-ductal hypertension and ischemia (3). Surgical decompression and endoscopic stone removal will result in pain relief in patients suffering from chronic pancreatitis (1). Surgical decompression, like Frey's procedure, involves coring the pancreas's head with lateral

pancreaticojejunostomy. It is an effective procedure with prolonged intra-operative time and postoperative stay, which could be difficult in a hospital handling Covid-19 cases during the pandemic. Shortage of oxygen supplies, ventilators, workforce, and fear of contracting Covid-19 makes it challenging to carry out these significant surgeries during the Covid-19 pandemic. Interventional pain blocks may serve as a bridge and provides adequate analgesia for a few weeks, mainly if the pain is very severe and not amenable to oral analgesics until an actual surgical procedure can be undertaken. We describe a case where a patient benefitted from a splanchnic nerve

block (SNB) as surgery could not be undertaken within a reasonable time.

Case Report

A 20-year-old male, known case of chronic calcific pancreatitis with a Numeric pain intensity scale (NPIS) score of 8/10 planned for Frey's procedure, was referred from surgical gastroenterology for pain management as elective cases were to be postponed due to the pandemic. The pain was in the epigastric region, radiating backward, burning in nature with periodic exacerbation, worsened on eating, and was associated with insomnia. Initially, he was started on NSAIDs and later put on opioids by the surgical team. He was not tolerating the analgesics and ended up with breakthrough pain with severe vomiting and constipation.

His serum lipase was elevated, apart from which all other blood investigations were within normal limits. His magnetic resonance cholangiopancreatogram revealed chronic pancreatitis with the dilated pancreatic duct. RTPCR for Covid-19 was negative. The clinical team explained to him the pain management options until surgery and proceeded for SNB after obtaining informed consent.

The patient was fasted 6 hours before the procedure. The NPIS recorded on the day of the process was 8/10. In the operation theatre, ECG, NIBP, and pulse-oximeter monitors were connected. An intravenous cannula was secured, and a bolus of 500ml of Ringer lactate solution was given. The patient was given one prophylactic antibiotic dose after the test dose. The patient was administered 0.2 mg glycopyrrolate, 1 mg midazolam, and two microgram/kg fentanyl before the procedure. Oxygen was administered to the patient through the nasal cannula. The patient was placed in the prone position, and a pillow was placed below the abdomen to flex the thoracolumbar spine. After sterile preparation, check fluoroscopy focusing the T10 to L2 vertebrae was taken. The fluoroscopy was rotated 30 degrees to the right side to visualize the lateral side of the T12 vertebrae.

After local infiltration with lidocaine, a 22g 10cm spinal needle was introduced at the junction of the rib and the vertebral body. Under tunneled vision, the needle was advanced 1.5cm. Then the fluoroscope

was rotated laterally, and the needle was advanced until it reached the junction of anterior one-third and

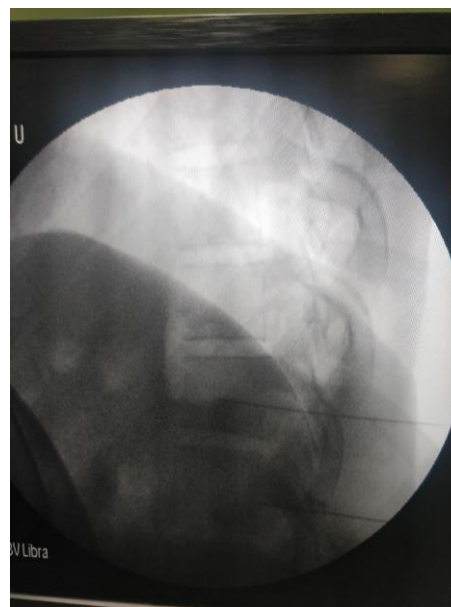


Figure 1. Needle tip placement at the junction of anterior one-third and posterior two-thirds of the vertebrae.

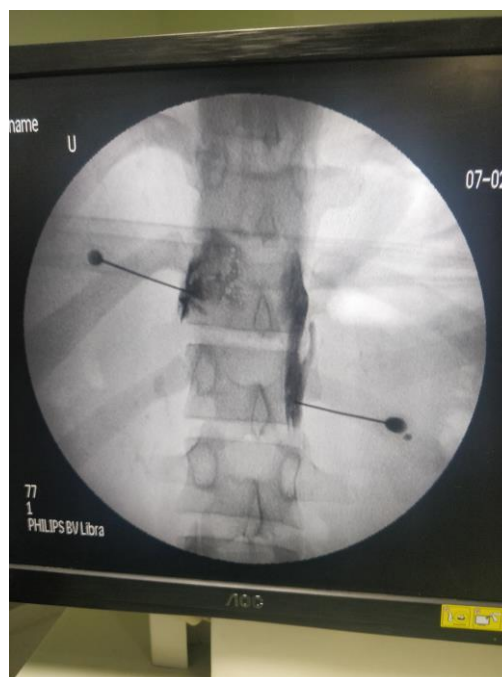


Figure 2. Fluoroscopic confirmation of dye spread.

posterior two-thirds of the T12 vertebrae (figure-1). After ensuring bony contact of the needle, the fluoroscope was positioned to obtain a posteroanterior view, and 2ml of nonionic contrast dye was injected. After confirming the proper spread of the dye (figure-

2), 8ml of 0.25% of bupivacaine and 40 mg of depot methylprednisolone were injected incrementally after repeated aspiration. The same procedure was repeated on the left side at the level of T11. There was a slight fall in blood pressure managed with intravenous fluids. The patient was turned to the supine position and shifted to the postoperative room. The pain intensity was assessed after 1 hour and was 0/10. The patient was discharged after 6 hours and was asked to maintain a pain diary to record pain intensity in the next few days. The patient was advised to take oral paracetamol 15 mg/kg for two days to counter the injection pain. The patient had no pain for 2 weeks and later presented to us with mild pain with NPIS of 1-2/10 after food intake. The patient was advised tablet paracetamol 15mg/Kg three times 30min before food. The patient was comfortable with this regimen for the next two weeks. He was posted for definitive surgery (Frey's procedure) when the posting of elective cases resumed.

Discussion

Analgesic management of chronic pancreatitis is challenging and ranges from medical management and interventions to surgery. Medical management ranges from nonopioid to opioid medications. Most often, opioids are preferred over nonopioid drugs as they are more potent analgesics but may have limitations in patients with refractory pain (4). Interventional pain block provides analgesia, improves the quality of life, and reduces analgesic usage and its side effects (5). Among interventions, we can opt for SNB or celiac plexus block (CPB). In a study, SNB was found to reduce the VAS scores and opioid consumption and improve the quality of life better than CPB in pancreatic cancer patients (6). In a study done on patients suffering from chronic abdominal pain, SNB performed with local anesthetics (LA) produced a longer duration of pain relief (median of 56 days vs. 21 days) when compared to CPB (7). The SNB can be performed with a combination of LA with steroids, chemical neurolytic agents, and radiofrequency ablation (RFA). Chemical ablation with neurolytic may lead to neuritis and hyperesthesia development after the lysed nerve regeneration would be worse than the original pain (8). LA with depot steroids produced good short-term analgesia with relatively fewer side

effects. Gress reported a decrease in mean pain score from 8 to 2 at the end of the 4th and 8th week, respectively, following endoscopic USG-guided celiac plexus block with a mixture of bupivacaine and triamcinolone in chronic pancreatitis (9). In a comparative study on celiac plexus block, LA and steroid mixture resulted in pain relief in 40% of patients at the end of 8 weeks (10). The above two studies indicate that the LA and steroid mixture provided good pain relief for eight weeks. We couldn't find studies in which SNB is being done with a combination of LA and steroids for chronic pancreatitis pain relief.

Conclusion

We conclude that SNB conducted with LA+steroid would serve as a temporary analgesic technique bridging the times of emergency lockdown in which the patients with painful chronic pancreatitis cannot undergo definitive surgery.

Acknowledgment

None.

Conflicts of Interest

The authors declare that there are no conflicts of interest.

References

1. Goulden MR. The pain of chronic pancreatitis: a persistent clinical challenge. *Br J Pain*. 2013;7(1):8-22.
2. Dunbar EK, Saloman JL, Phillips AE, Whitcomb DC. Severe Pain in Chronic Pancreatitis Patients: Considering Mental Health and Associated Genetic Factors. *J Pain Res*. 2021;14:773-84.
3. Karanjia ND, Widdison AL, Leung F, Alvarez C, Lutrin FJ, Reber HA. Compartment syndrome in experimental chronic obstructive pancreatitis: effect of decompressing the main pancreatic duct. *Br J Surg*. 1994;81(2):259-64.
4. Sachdev AH, Gress FG. Celiac Plexus Block and Neurolysis: A Review. *Gastrointest Endosc Clin N Am*. 2018;28(4):579-86.
5. Ahmed A, Arora D. Fluoroscopy-guided Neurolytic Splanchnic Nerve Block for Intractable Pain from Upper Abdominal Malignancies in Patients with Distorted Celiac Axis Anatomy: An

Effective Alternative to Celiac Plexus Neurolysis - A Retrospective Study. *Indian J Palliat Care*. 2017;23(3):274-81.

6. Stileyman Ozyalçin N, Talu GK, Camlica H, Erdine S. Efficacy of coeliac plexus and splanchnic nerve blockades in body and tail located pancreatic cancer pain. *Eur J Pain*. 2004;8(6):539-45.

7. Kapural L, Lee N, Badhey H, McRoberts WP, Jolly S. Splanchnic block at T11 provides a longer relief than celiac plexus block from nonmalignant, chronic abdominal pain. *Pain Manag*. 2019;9(2):115-21.

8. Ben Aziz M, Cascella M. Peripheral Neurolytic Blocks. StatPearls.

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9. Gress F, Schmitt C, Sherman S, Ciaccia D, Ikenberry S, Lehman G. Endoscopic ultrasound-guided celiac plexus block for managing abdominal pain associated with chronic pancreatitis: a prospective single center experience. *Am J Gastroenterol*. 2001;96(2):409-16.

10. Gress F, Schmitt C, Sherman S, Ikenberry S, Lehman G. A prospective randomized comparison of endoscopic ultrasound- and computed tomography-guided celiac plexus block for managing chronic pancreatitis pain. *Am J Gastroenterol*. 1999;94(4):900-5.