Interventional Management for Pelvic Pain

Ameet S. Nagpal, MD, MS, MEd*, Erika L. Moody, MD, MBS

KEYWORDS

• Pelvic pain • Interventional pain management • Pelvic injections • Nerve block
• Hypogastric plexus • Ganglion impar

KEY POINTS

- Depending on the etiology of pelvic pain, various interventions may be used to aid in diagnosis and treatment.
- Multiple imaging modalities are increasingly being used with these procedures, with the goal of enhancing efficacy and safety.
- Interventional procedures can be applied for diagnostic evaluation and treatment, often once more conservative measures have failed to provide relief.

INTRODUCTION

A multimodal approach to treatment is often necessary in the patient with pelvic pain. Interventional procedures can be applied for both diagnostic evaluation and treatment, often once more conservative measures have failed to provide relief. This article reviews interventional management strategies for pelvic pain. Such interventions are recommended to be performed by an appropriately trained pain medicine specialist.

SUPERIOR HYPOGASTRIC PLEXUS BLOCK

Superior hypogastric plexus (SHP) blocks provide targeted intervention to sympathetic-mediated pain pathways. The SHP is part of the abdominopelvic autonomic nervous system, a complex network of fibers surrounding the anterior and lateral aspects of the abdominal aorta. These fibers divide just below the aorta to course in the endopelvic fascia of the pelvic basin to form a separate, inferior hypogastric plexus (IHP).[1] The SHP provides visceral innervation to most pelvic structures, the descending colon, rectum, and internal genitalia, except the ovaries and fallopian

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UT Health San Antonio, 7703 Floyd Curl Drive MC 7838, San Antonio, TX 78229, USA
* Corresponding author.
E-mail address: NagpalA@uthscsa.edu

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tubes.[2] Given the complexity of the IHP, the SHP is targeted, in essence, to block the innervation of both the SHP and IHP. The SHP is retroperitoneal at the level of the lower one-third of the fifth lumbar vertebral body and upper one-third of the first sacral vertebral body at the sacral promontory, and in proximity to the bifurcation of the common iliac vessels. SHP blocks are performed for pelvic pain secondary to endometriosis, inflammatory disease, postoperative adhesions, and cancer unresponsive to more conservative measures.[3] There are also reports of the blocks providing postprostatectomy penile and urethral pain relief.[4,5]

The traditional posterior approach using fluoroscopic guidance is described using bilateral 6- or 7-inch, 22-gauge beveled needles oriented 30° caudad and 45° medial, to direct the needle to the anterolateral aspect of the L5 vertebral body (**Fig. 1**). Fluoroscopic anteroposterior views should demonstrate the needle tip at the junction of the L5 and S1 vertebral bodies (**Fig. 2**). This imaging is important to avoid potential spread of the injected agent toward the L5 roots. Lateral views should confirm placement of the needle tip about 1 cm past the vertebral body. Contrast spread should be confined to the midline region on anteroposterior view and a smooth posterior continuous spread corresponding with the anterior psoas fascia should be seen in the lateral view. The block should be performed with 6 to 8 mL of 0.25% bupivacaine on each side for diagnostic or prognostic blockade and 6 to 8 mL of 10% aqueous phenol for therapeutic neurolysis.[6] De Leon-Casasola and colleagues[7] reported a 69% success rate with neurolytic SHP blocks in patients with severe pelvic cancer pain. There was a mean oral opioid therapy decrease of 67% in the 2 weeks after the procedure. Potential complications include accidental dislodgement of atherosclerotic plaques from iliac vessels, intraarterial injection of iliac vessels, retroperitoneal hematomas, and ureter and bladder puncture.[7]

Alternate methods include a fluoroscopically guided anterior approach. This method avoids contact of the needle with the lumbar nerve roots. Although technically easier to perform, this approach carries an increased risk of inadvertent perforation of

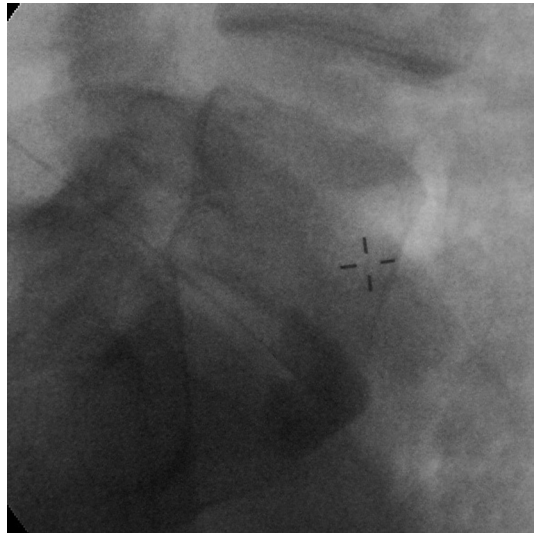

Fig. 1. Superior hypogastric plexus block with contrast spread in lateral view. The needle is visualized at the L5 vertebral body.