

Superior Hypogastric Plexus Block for Pelvic Pain: Literature Review

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Background

Pelvic pain is a complex and often debilitating condition that can significantly impact an individual's quality of life. It encompasses a broad spectrum of etiologies, including gynecological, urological, and gastrointestinal disorders, making its management particularly challenging. Traditional treatments, such as medications and physical therapy, may provide partial relief but often fall short of addressing the underlying pain mechanisms or offering long-term solutions. In recent years, peripheral nerve blocks have gained attention as a viable alternative for managing chronic pelvic pain. Among these, the superior hypogastric plexus (SHP) block has emerged as a promising intervention. SHP shows promise in the treatment of pelvic pain, with a focus on its central role in transmitting pain signals from the pelvic region to the central nervous system. By interrupting these signals, the SHP block aims to alleviate pain and improve patient outcomes. The procedure involves the injection of local anesthetics or neurolytic agents into the plexus, which can potentially disrupt nociceptive pathways and provide significant pain relief.

Methods

A comprehensive scientific literature search was conducted through specialized databases such as MEDLINE, EMBASE, CINAHL, PubMed, MedlinePlus, PsycINFO, and Cochrane Library. The search terms used to retrieve the relevant literature in each of these databases were “nerve block” AND “superior hypogastric plexus” AND “pelvic pain”.

Results/Evidence Table

Study	Therapy or Exposure	Outcome/Results
Randomized, Double-Blind, Placebo-Controlled, Clinical Trial	-68 women scheduled for total abdominal hysterectomy -Twenty ml of ropivacaine or saline injected retroperitoneally in the area of superior hypogastric plexus block during hysterectomy	- 35 women analyzed in ropivacaine group: significant lower postoperative opioid consumption, significant more women scoring VAS <4 at 2 hours after block (63%) - 33 women analyzed in saline group: significant higher postoperative opioid consumption, significant less women scoring VAS <4 at 2 hours after block (25%) -Superior hypogastric plexus is effective for treatment of pelvic pain s/p hysterectomy compared to saline placebo
Multicenter, Randomized Single-Blind, Controlled, Clinical Trial	-100 women randomly analyzed undergoing laparoscopic hysterectomy for any indication -Separated into 2 groups, either received superior hypogastric plexus block or did not receive anything	-No significant difference in the proportion of patients with a mean VAS score lower than 4 within 2 hours postoperatively between those who received a superior hypogastric plexus block (57%) and those who did not (43%) -Superior hypogastric plexus block did not significantly reduce postop pain
Single-center, Randomized Patient-Blind, Controlled, Clinical Trial	-50 patients undergoing laparoscopic or robot-assisted laparoscopic hysterectomy or myomectomy for benign indication -Ten ml of ropivacaine in retroperitoneal space vs no block given	-Mean opioid use in group that received the block was 33.1 morphine milligram equivalents (MME) compared to 54.9 MME in no-block group, representing a 38% reduction of opioid use in patients who received the nerve block -Mean VAS pain scores over 24 hours showed a lower pain score with the nerve block (1.8) compared to no-block (2.6)
Open-label Pilot Clinical Trial	-16 patients with refractory endometriosis underwent superior hypogastric -No control group	- Significant VAS score reduction scores at 0 weeks, 1 week, 4 weeks, 12 weeks and 24 weeks for chronic pelvic pain, dysmenorrhea, and dyspareunia - Short-term endometriosis health profile (EHP-5) measured for quality of life also significantly improved

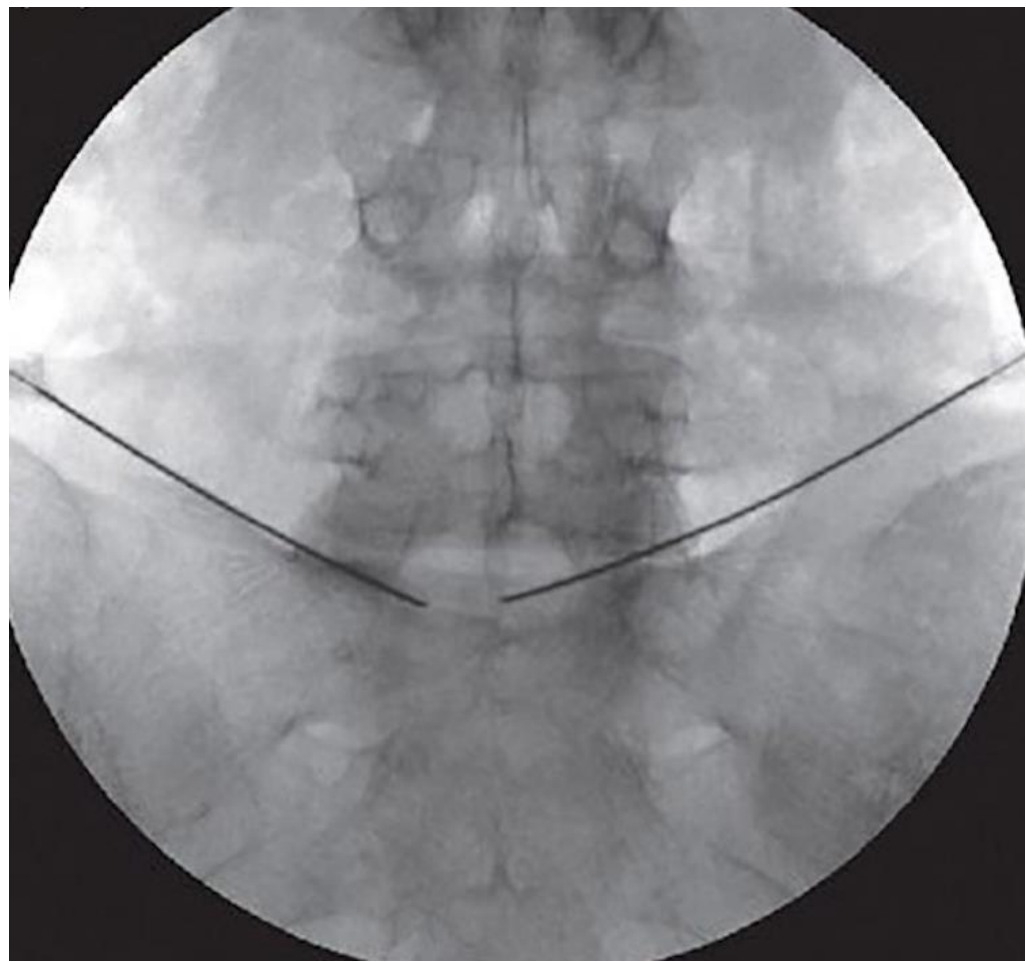


Figure 1. AP fluoroscopic view of needle approach at level of SHP

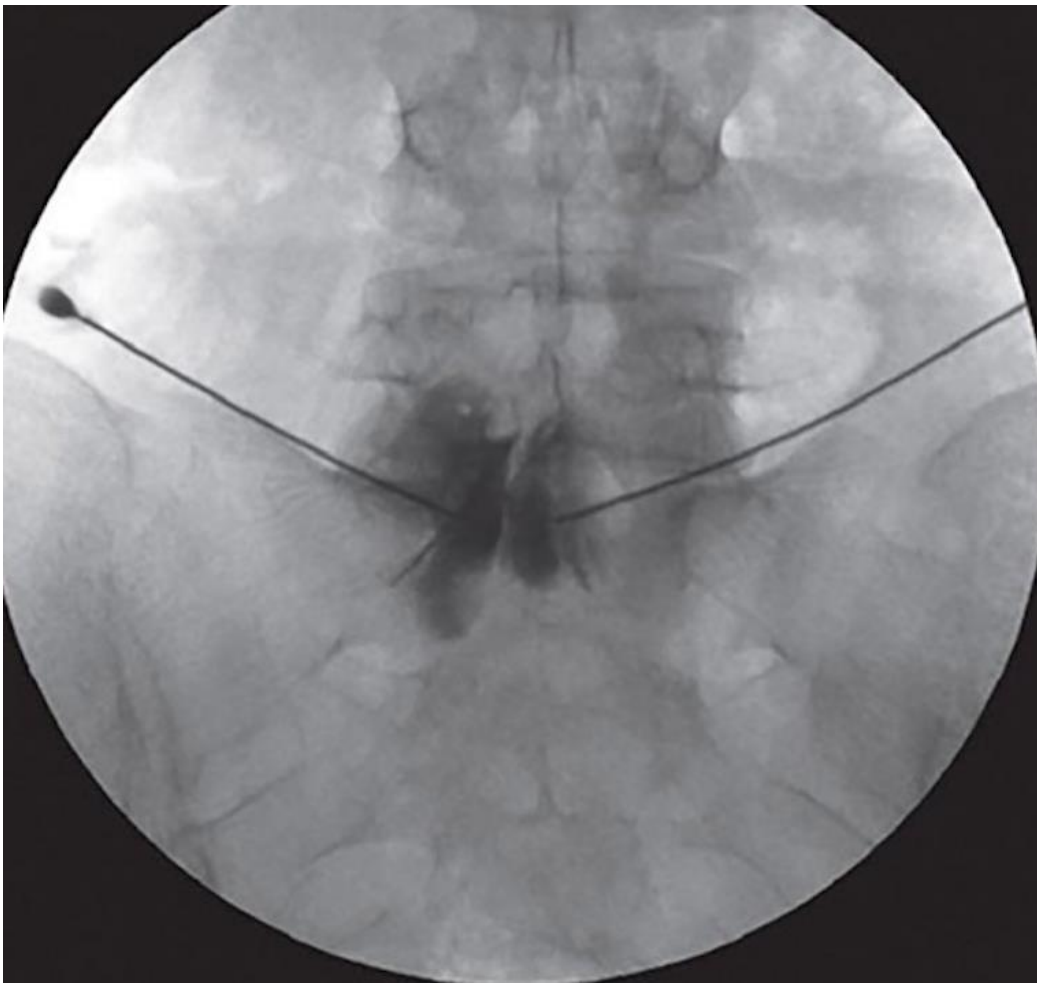


Figure 2. AP fluoroscopic view of needle tip after contrast administered at level of SHP

Discussion and Conclusions

In conclusion, the studies reviewed suggest that peripheral nerve plexus blocks, especially those targeting the superior hypogastric nerve, are a promising intervention for managing pelvic pain. Although responses can vary among individuals, the generally positive results and lasting effects observed in a range of patients underscore the potential of this approach to enhance the quality of life for those dealing with this challenging condition. To validate and build on these encouraging results, further research and larger-scale studies will be crucial.

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