FPIN's Help Desk Answers

Nerve Blocks for Pancreatic Cancer Pain

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Clinical Question

Do nerve blocks control pancreatic cancer pain?

Evidence-Based Answer

Celiac plexus blocks can be used for pain associated with pancreatic cancer. They slightly reduce pain while decreasing opioid consumption, with fewer adverse effects compared with standard analgesic therapy. (Strength of Recommendation [SOR]: A, based on a systematic review of randomized controlled trials [RCTs].) Celiac plexus neurolysis is not well studied, but it appears to provide temporary pain relief for many patients with end-stage pancreatic cancer. (SOR: C, based on a case series.)

Evidence Summary

A 2011 systematic review of six RCTs (N = 358) evaluated the effectiveness and safety profile of celiac plexus blocks for pancreatic cancer pain.[1] Fifty-six percent of participants were male. They were a mean age of 61 years, had any stage of unresectable pancreatic cancer, and were followed for at least four weeks postinjection. Participants were randomized to receive celiac plexus block (n = 176) or standard analgesic therapy with nonsteroidal anti-inflammatory drugs (NSAIDs) or morphine (n = 182). Celiac plexus block is a transient interruption of the nerve plexus via injection of an anesthetic. Pain levels were measured at four and eight weeks via a visual analog scale of 0 to 10, with higher numbers representing increased pain. Secondary outcomes that were analyzed included opioid consumption and adverse effects of the treatments. The celiac plexus block group had significantly lower pain at four weeks (four RCTs; n = 173; mean difference [MD] = −0.43; 95% CI, −0.73 to −0.14) and at eight weeks (five RCTs; n = 261; MD = −0.44; 95% CI, −0.89 to −0.01) compared with the control groups. Additionally, the amount of opioids consumed daily (measured in mg) at four weeks posttreatment decreased substantially in the celiac plexus block group compared with the control groups (four RCTs; n = 120; MD = −51 mg; 95% CI, −82 mg to −19 mg). Constipation was much less prevalent in the treatment group compared with the standard therapy group (four RCTs; n = 111; relative risk = 0.38; 95% CI, 0.25 to 0.59). There were no major complications from celiac plexus blocks, including death, vascular damage, or infection.

A 2017 case series (N = 138) examined the effectiveness of computed tomography–guided celiac plexus neurolysis on pain control in patients with end-stage pancreatic cancer.[2] Celiac plexus neurolysis involves injecting a neurolytic agent into the celiac plexus. Patients receiving computed tomography–guided celiac plexus neurolysis over a seven-year period (between 2007 and 2014) were identified. Of these cases, 87 had sufficient follow-up to be analyzed and classified into one of three outcome groups based on pain relief. Ultimately, 31 patients (36%) were classified as Group 1, obtaining either no pain relief or temporary relief that subsided within two days of the procedure. Twenty-one patients (24%) were classified as Group 2, obtaining moderate pain relief that lasted at least two days but with no change in narcotic consumption. Lastly, 35 patients (40%) were classified as Group 3, obtaining either considerable or complete pain relief for at least two days with a reduction in narcotic consumption. No major adverse effects occurred at a high rate; diarrhea was the most common minor adverse effect, affecting 13% of patients.

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References

1. Arcidiacono PG, Calori G, Carrara S, et al. Celiac plexus block for pancreatic cancer pain in adults. *Cochrane Database Syst Rev.* 2011;(3):CD007519.
2. Edelstein MR, Gabriel RT, Elbich JD, et al. Pain outcomes in patients undergoing CT-guided celiac plexus neurolysis for intractable abdominal visceral pain. *Am J Hosp Palliat Care.* 2017;34(2):111-114. ■

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