The Effects of Celiac Plexus Neurolysis for the Treatment of Intra-Abdominal Cancer Pain

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INTRODUCTION

Pancreatic cancer and other malignant tumors of the upper abdominal organs often induce pain that is difficult to control. Celiac plexus neurolysis is a procedure often performed to provide relief to patients suffering from pain related to upper abdominal cancer. However, various studies have reported conflicting results about its effect. Therefore, the present study investigated the effects of celiac plexus neurolysis on upper abdominal cancer pain.

METHODS

Medical records of patients who underwent celiac plexus neurolysis for upper abdominal cancer at the hospital were retrospectively analyzed. The change in pain among patients after the procedure was evaluated with the numeric rating scale (NRS), and the use of opioid analgesics before and after the procedure, as well as complications from the procedure were investigated.

Fig. 1. Fluoroscopic images of contrast spread after intradiscal celiac plexus neurolysis. (A) Fluoroscopic lateral view of a single needle placement of the celiac plexus with the contrast confirming the correct position anterior to the vertebral body. (B) Fluoroscopic anteroposterior view of contrast spread.

RESULTS

A total of 99 patients underwent celiac plexus neurolysis for abdominal cancer pain. The NRS scores at 2, 4, 8, and 12 weeks post-procedure were significantly reduced compared to before the procedure ($p < 0.05$). The post-procedural use of opioid analgesics was also significantly decreased ($p < 0.05$). Mild adverse events (moderate diarrhea and mild hypotension) were frequent ($n = 28$); no serious complications were reported and no procedure-related deaths were observed.

Table 2. Morphine equivalent daily dose and pain scale before CPN and after CPN.

	Pre-CPN	Post-CPN	1 mo	2 mo	3mo
Morphine Equivalent Daily Dose (Oral Morphine, mg)	331.6	225.1	235.6	240.2	250.5
Pain scale (NRS)	7.3	5.7	6	6.2	5.9

CPN, celiac plexus neurolysis; NRS, numeric rating scale

Table 2. Incidence of adverse effects.

Characteristic	
Hypotension (%)	22 (22.3%)
Diarrhea (%)	6 (6.0%)

Values are the number of patients (%).

CONCLUSIONS

Celiac plexus neurolysis resulted in a decrease in pain and in the use of opioid analgesics in patients experiencing upper abdominal cancer pain, and serious complications after the procedure were rare. These results provide evidence that celiac plexus neurolysis may be useful in the treatment of abdominal cancer pain in a clinical setting.