Case Report

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CT-Guided Celiac Plexus Block via Anterior Approach for Pain Management in Pancreatic Cancer Patients

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Abstract

Pancreatic cancer is associated with severe abdominal pain, which significantly impacts the quality of life. Celiac plexus block (CPB) is an effective interventional procedure for managing this pain. This case report presents a 80 year old male patient with advanced pancreatic cancer who underwent CT-guided anterior approach for celiac plexus block, highlighting the procedure's effectiveness and safety.

Keywords: Celiac plexus block, Celiac ganglion, Minimally invasive procedure, Pain management, Pancreatic cancer.

INTRODUCTION

Pancreatic cancer often presents with debilitating pain due to its aggressive nature and involvement of surrounding structures. Pancreatic cancer is associated with severe abdominal pain, significantly affecting the quality of life. Celiac plexus block serves as a palliative measure to alleviate pain by disrupting nociceptive signals from the abdominal viscera. This report aims to discuss the efficacy and safety of the CT-guided anterior approach for CPB in pancreatic cancer patients.

CASE PRESENTATION

Patient Profile: A 80-year-old male diagnosed with stage IV pancreatic adenocarcinoma, presented with delibitating abdominal pain despite maximum opioid therapy. The patient had previously received chemotherapy, which was poorly tolerated, and had significant weight loss (10% of body weight).

Clinical findings: On examination, the patient displayed tenderness in the epigastric region, with no signs of acute abdomen. Pain was rated as 8/10 on the Numeric Rating Scale, affecting daily activities.

Imaging studies: A contrast-enhanced CT scan confirmed the diagnosis of pancreatic cancer with metastasis to the liver. The celiac plexus was visualized, allowing for precise localization.

PROCEDURE

After obtaining informed consent, they were

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placed in a supine position. A contrast-enhanced CT scan was performed to identify the celiac plexus location, typically located anterior to the aorta at the level of the first lumbar vertebra. Using an anterior approach, a needle was inserted into the celiac plexus, using 15 cm long 22 gauge quinckes needle and 5 mL of a local anesthetic (1% lignocaine) combined with a steroid (triamcinolone 20 mg) was administered followed by 5 mL of 50% alcohol. Procedure was uneventful.

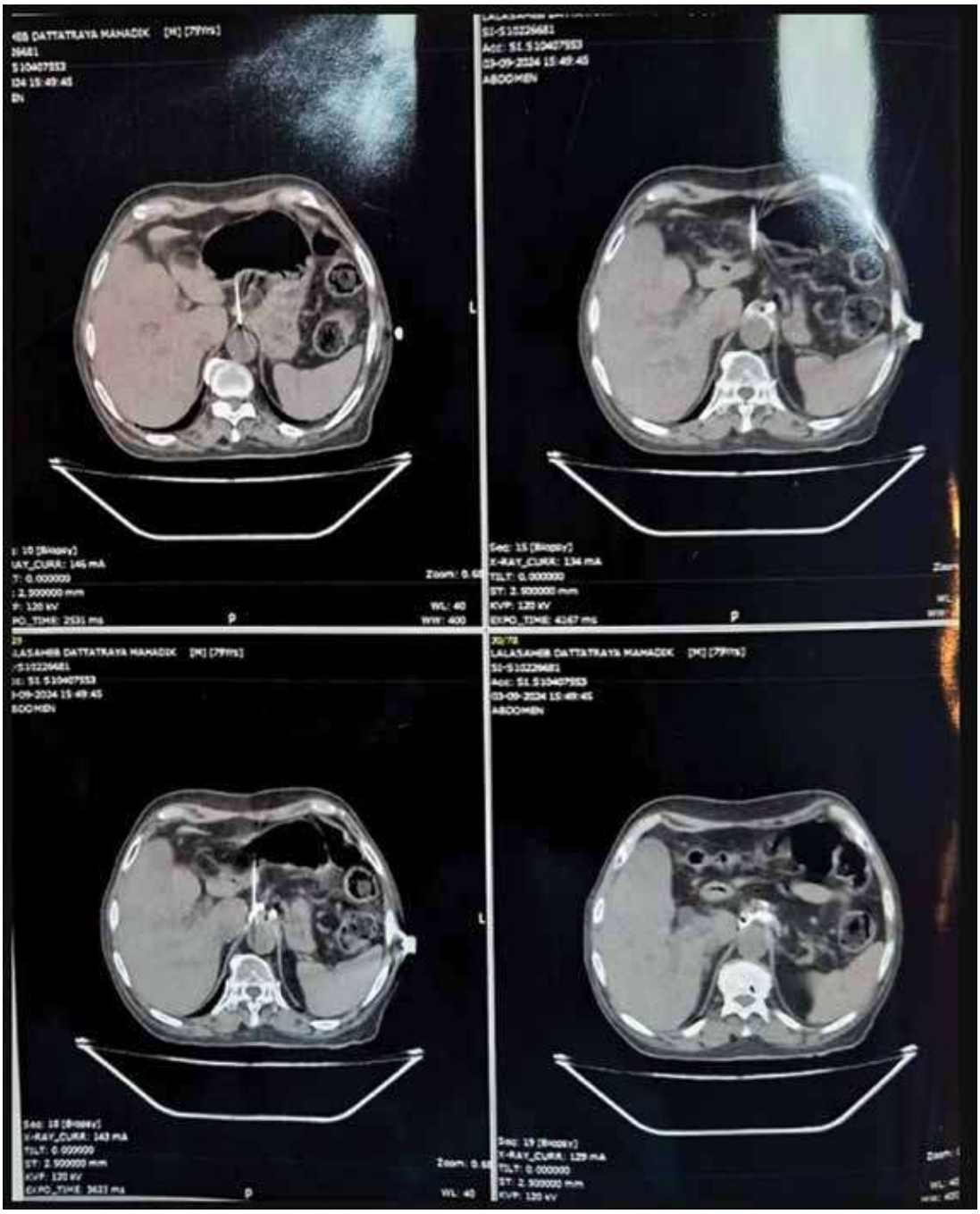

Fig. 1: Single needle technique: CT scan shows tip of needle is placed anterior to the aorta between the celiac axis and superior mesenteric artery and spread of the contrast material around the aorta.

Follow-Up: Within 24 hours post-procedure, the patient reported a significant reduction in painwith a notable reduction in opioid requirements. patient reported a pain score reduction from 8/10 to 3/10. this relief persisted for several weeks, allowing the patient to resume normal activities and improve his quality of life. patient tolerated the procedure well, with no immediate complications.

DISCUSSION

The anterior approach for celiac plexus block offers several advantages, including direct access to the plexus with reduced risk of vascular injury and improved visualization via CT guidance. Recent studies support the efficacy of CPB in improving quality of life for pancreatic cancer patients.[1,2] The combination of local anesthetics and steroids has been shown to enhance pain relief duration and effectiveness.[3] Studies have shown that such interventions can lead to a marked decrease in pain levels and reduced opioid consumption.[7]

In this case, the CT-guided technique ensured accurate placement of the needle, minimizing complications and optimizing pain relief. Potential complications, though rare, including transient diarrhea, hypotension, and vascular injury, which were not observed in this patient.

CONCLUSION

CT-guided celiac plexus block via the anterior approach is a safe and effective method for managing abdominal pain in a patient with advanced pancreatic cancer. This intervention can significantly enhance the quality of life for patients facing similar challenges.

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