

Echoendoscopic ethanol ablation of tumor combined to celiac plexus neurolysis improved pain control in a patient with pancreatic adenocarcinoma

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ABSTRACT

A 75-year-old man suffering from opioid-refractory due to an advanced pancreatic adenocarcinoma was treated with endoscopic ultrasound (EUS)-guided celiac plexus neurolysis (CPN) combined to EUS-guided tumor ablation. No major complications were recorded during the procedure. In the days following the procedure, mild diarrhea and fever were the only minor complications experienced by the patient. Complete tumor devascularization was assessed by means of computed tomography (CT) 48 h after the procedure. The patient remained pain-free without need of opioid, and was treated only with paracetamol for 20 weeks. Our results were optimal in terms of pain relief and immediate tumor response (assessed by means of CT and tumor marker levels). The present case demonstrates that the combined approach (EUS-guided ethanol ablation and CPN) may be a valuable option in patients with pancreatic cancer. Randomized-controlled trials are needed to confirm this result.

Key words: Ablation, celiac plexus neurolysis, echoendoscopy, pancreatic cancer

INTRODUCTION

Advanced pancreatic cancer commonly induces severe refractory pain. In such patients, endoscopic ultrasound (EUS)-guided celiac plexus neurolysis (CPN) has been reported to be effective in inducing pain relief. However, this result is often only suboptimal and transient. Furthermore, CPN has not been definitively confirmed as effective in improving patient survival.

CASE REPORT

A 75-year-old man suffering from opioid refractory pain (recorded as 9 according to visual analog scale (VAS)) due to an advanced stage IV histologically-proven pancreatic adenocarcinoma with liver metastases and celiac trunk infiltration not suitable for surgery, was referred to our center. EUS confirmed the nodular hypoechoic lesion of $40 \times 38 \times 33$ mm in the pancreas [Figure 1]. Ca 19-9 level was 987.07 U/mL. As the tumor stage was beyond any possibility of surgical radical care and in order to relieve patient's symptoms, after informed consent was obtained, EUS-guided CPN combined to EUS-guided tumor ablation was arranged. Under sedation with propofol, EUS was conducted with a Pentax FG-36UA ultrasound endoscope (Pentax Europe Ltd, Hamburg, Germany) using a curved-array transducer. A 22 G needle (Cook Medical Inc, Bloomington, Indiana, USA) was introduced though

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the endoscope's working channel to inject 10 mL 2.0% lidocaine and 20 mL of ethylic alcohol 95% into the base of the celiac trunk at its origin from the aorta [central approach, Figure 2]. After performing CPN, 40 mL 75% of lesion volume of ethanol (concentration 95%) were directly injected into the tumor [Figure 3].

No major complications were recorded during the procedure. In the days following the procedure, mild (grade 2) diarrhea and fever were the only minor complications experienced by the patient. Complete tumor devascularization was assessed by means of computed tomography (CT) 48 h after the procedure [Figure 4]. Ca 19-9 dropped down to 56.84 U/mL at 2 weeks after EUS.

Complete pain relief, namely VAS 0,^[1] was achieved 3 days after the endoscopic ablation. The patient remained pain-free without need of opioid, and was treated only with paracetamol for 20 weeks and afterwards experienced

pain relief, (defined as pain within 30% of baseline)^[1] until death occurred 30 weeks after the procedure.

DISCUSSION

Advanced pancreatic cancer commonly induces severe refractory pain. In such patients, where opioids result often ineffective, EUS-guided CPN has been reported to induce pain relief in 70-80% of cases.^[2,3] However, most patients achieve only suboptimal and transient relief, probably due to technical failure or further nociceptive impulses which cannot be interrupted by the neurolysis. Furthermore, definitive data on its efficacy in improving survival is still lacking.

Therefore, it was decided to try a combined approach directed both to the celiac plexus and the neoplastic mass, in order to delay tumor progression and lengthen pain-free survival as well as overall survival.

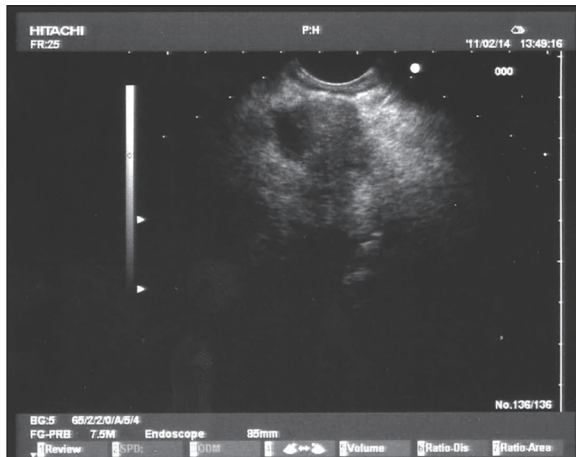


Figure 1. Tumoral nodule in the body of the pancreas

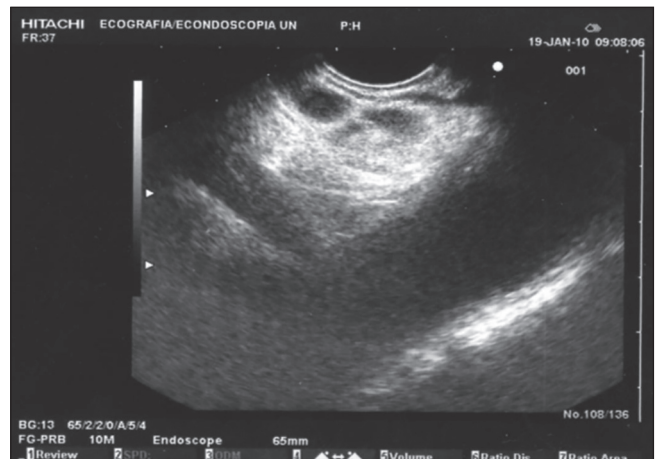


Figure 2. Celiac plexus neurolysis performed via the central approach

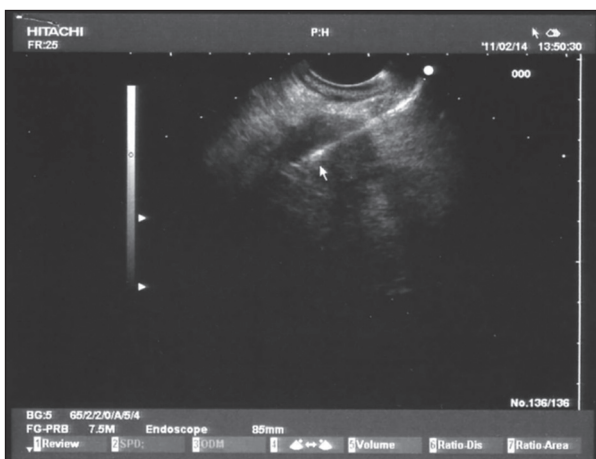


Figure 3. Ethanol ablation of the pancreatic tumor

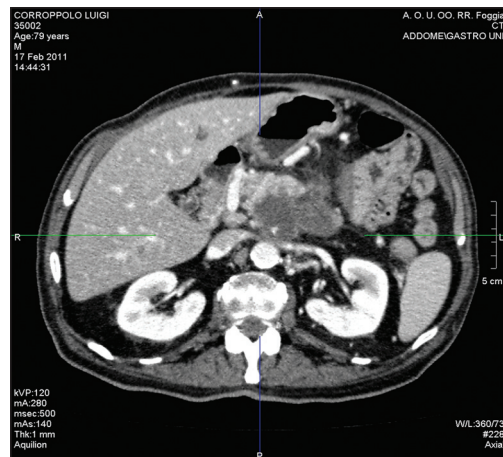


Figure 4. Tumor response assessed by means of computed tomography (CT) 48 h after the procedure

The results were optimal in terms of pain relief and immediate tumor response (assessed by means of CT and tumor marker levels).

The present case demonstrates that the combined approach (EUS-guided ethanol ablation and CPN) may be a valuable option aimed at improving both prognosis and pain control in patients with pancreatic cancer. Randomized-controlled trials comparing EUS-CPN alone to CPN associated to tumor ablation are needed to confirm this result.

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