



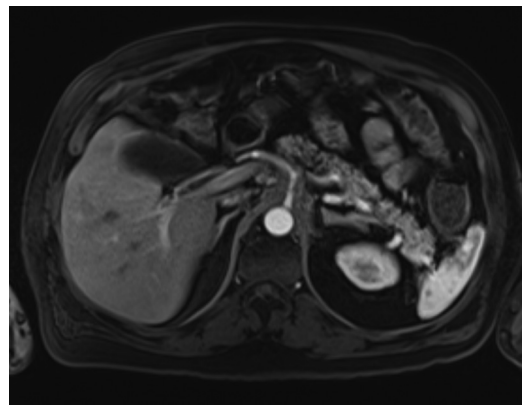
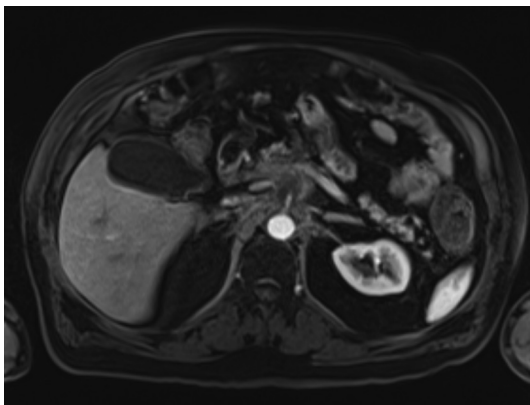
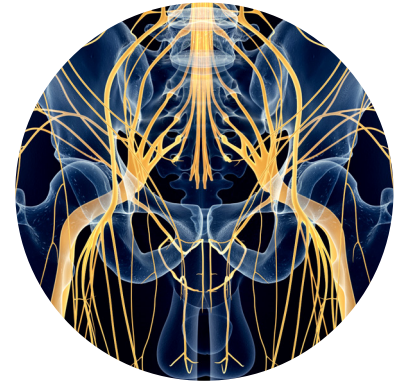
# CASE STUDY: CELIAC PLEXUS CRYONEUROLYSIS

## Technical and Anatomic Considerations

Aron Chary, MD | MidSouth Imaging - Vascular Interventional Physicians | Memphis, TN

### PRESENTATION

- 65-year-old male with intractable upper abdominal pain refractory to medical management with opiates
- Pancreatic head adenocarcinoma with retroperitoneal LAD and tumor infiltration along the CP and SMA territory
- MRI axial imaging depicting takeoff of the SMA with perivascular and peri-plexus soft tissue infiltrate
- Patient has maxed out current narcotic regimen with side effects of fatigue, lethargy, and somnolence



MRI axial images through the celiac plexus at the level of the celiac axis and SMA origins demonstrate bulky retroperitoneal adenopathy and soft tissue tumor infiltrate

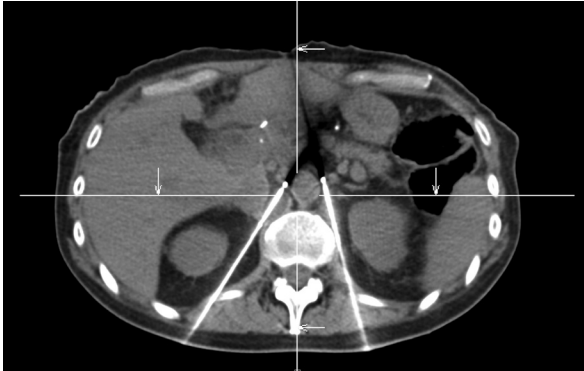
### TREATMENT

- Two IceRod™ 1.5 CX ablation needles were placed within and along the bilateral celiac plexus via CT-guidance utilizing a posterior paravertebral antecrural approach
- Targeted localization was performed at the level between the takeoff of the celiac axis and superior mesenteric arteries, slightly more caudal toward the SMA
- The tips of the bilateral needles were placed medial to the medial limb of each adrenal gland, anterior to the diaphragmatic crus, and at the level of the abdominal aorta to take advantage of the ice ball formation along the trajectory of the three-dimensional celiac plexus



# CELIAC PLEXUS CRYONEUROLYSIS | Technical and Anatomic Considerations

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**Axial CT slice after placement of the bilateral IceRod cryoablation needle via CT guidance using a posterior paravertebral antecurral approach**



**CT Axial image in prone position showing right-sided ice ball formation along the celiac plexus demonstrating excellent coverage of the plexus**

## SEDATION PROTOCOL

- General Anesthesia recommended if available
- 1 L NS and/or 25 g Albumin infusion prior to and during procedure for plasma volume optimization
- Arterial line recommended for real-time hemodynamic monitoring
- Often see blood pressure fluctuations and orthostasis based on sympathetic denervation

## OUTCOME

- The patient was discharged home the same day and no adverse events have been reported
- Initial subjective pain score was a 10/10 prior to the procedure with initial same day post-procedure pain scale of 5/10
- Three-day follow-up pain assessment was a 2/10 with significant upper abdominal and back pain relief
- No report of diarrhea or other GI side effects

## CONCLUSION

Percutaneous cryoneurolysis of the celiac plexus can be safely and effectively performed with the advantage of localized targeting and effective nerve bundle coverage. Cryoablation can be advantageous in the setting of bulky retroperitoneal tumor, adenopathy, or peripancreatic soft-tissue infiltrate.



### **Cryoablation Needles Indications, Safety, and Warnings**

<https://www.bostonscientific.com/cryoneedles-indications>



### **ICEfx™ Cryoablation System Indications, Safety, and Warnings**

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