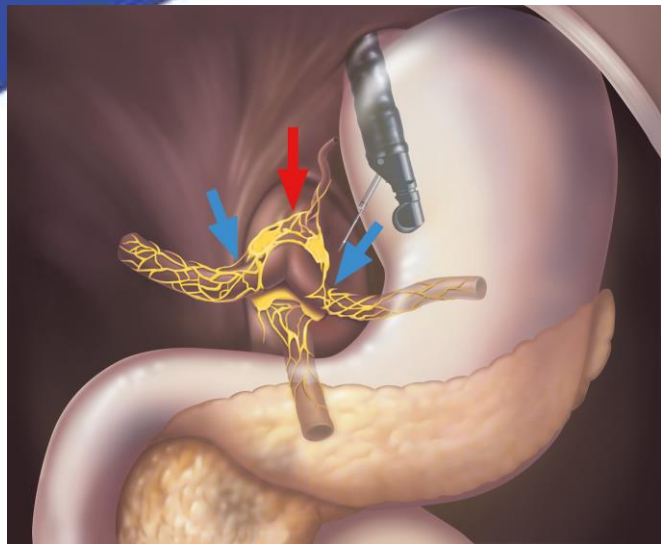




MINDAR
الجمعية الجزائرية للتغذية المعوية



3ème
congrès
national

Endoscopic ultrasound-guided celiac plexus neurolysis

Pr A. Meddah/HCA

7 & 8
novembre 2025
à l'hotel Golden Tulip
Royaume Alger

Themes:

- Polypes et cancer colo rectal
- Echo-endoscopie
- ESD and third space endoscopy
- CPRE

ATELIERS:

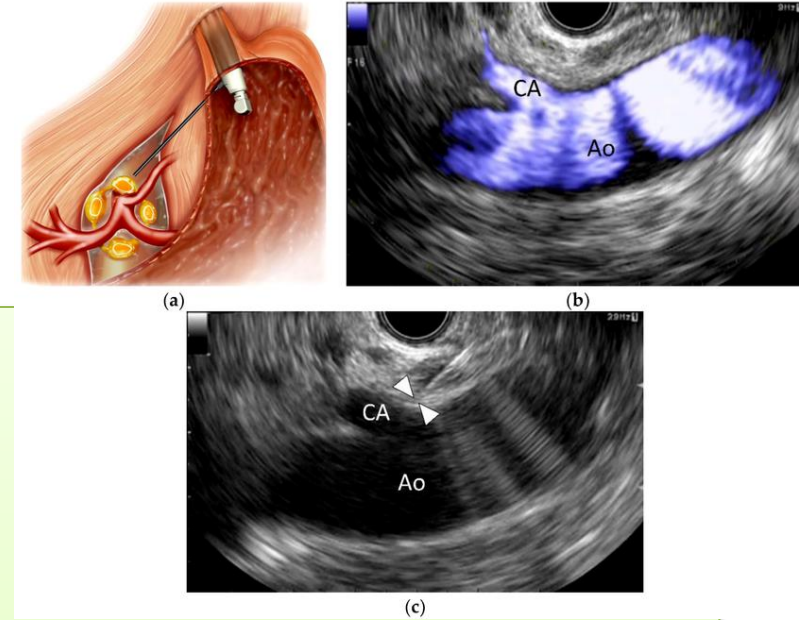
- HANDS ON
- ECHOGRAPHIE

OBJECTIFS PÉDAGOGIQUES

- TERMINOLOGY EUS CPN
- CURRNETS INDICATIONS
- CONTRAINDICATIONS
- PROCEDURE CHEKLIST
- CURRENT EVIDENCE
- IMPACT IN SURVIVAL
- WHAT IS NEW IN CPN
- SUMMARY AND GUIDELINES

INTRODUCTION

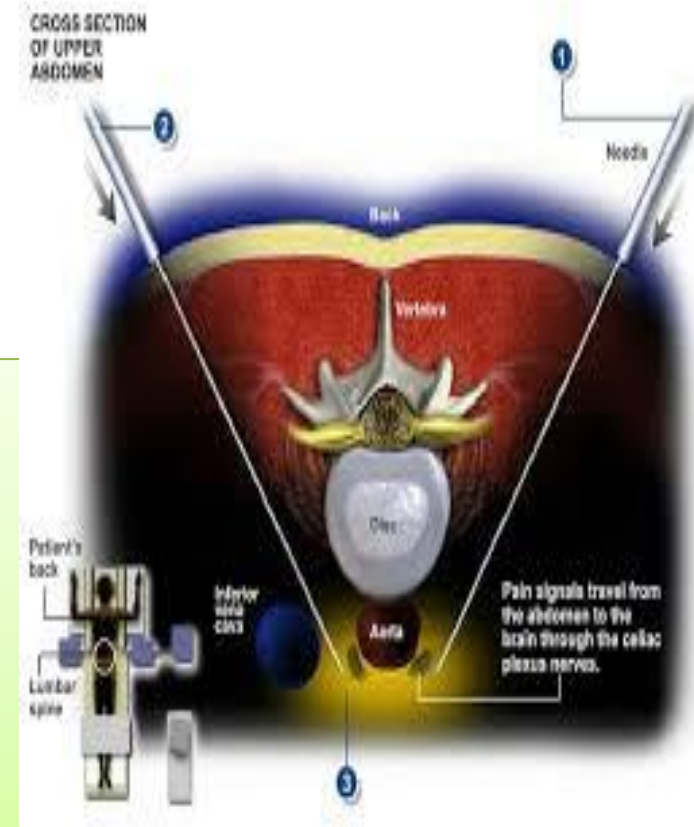
- 80 % cancer pancréas -> abdominal pain
- CELIAC PLEXUS NEUROLYSIS (CPN), initially reported in 1914
- Subsequently, it has been carried out under radiographic, fluoroscopic, computed tomography (CT), or ultrasonographic imaging guidance.
- Endoscopic ultrasound guided CPN (EUS-CPN) was introduced by Faigel and Wiersema in 1996.



TERMINOLOGY EUS CPN /CPB

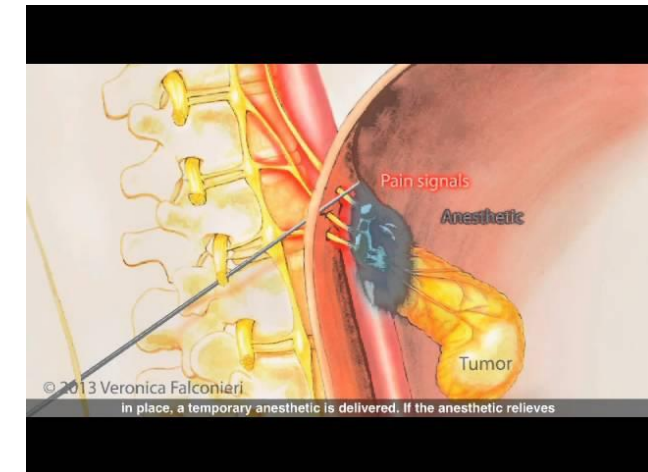
➤ CPN

- Permanent ablation of celiac plexus with alcohol or phenol
- Indicated in malignant disease –pancreatic tumor
- Adjunct to reduce opioid usage unlikely to resolve pain completely



➤ CPB

- Temporary inhibition of pain transmission via celiac plexus
- Corticosteroid and long acting local anesthetic used



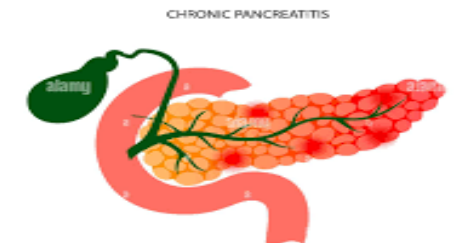
INDICATIONS



➤ Ca Pancreas advanced for pain palliation



➤ Chronic Pancreatitis ? CELIAC PLEXUS BLOCK TO BE AVOIDED

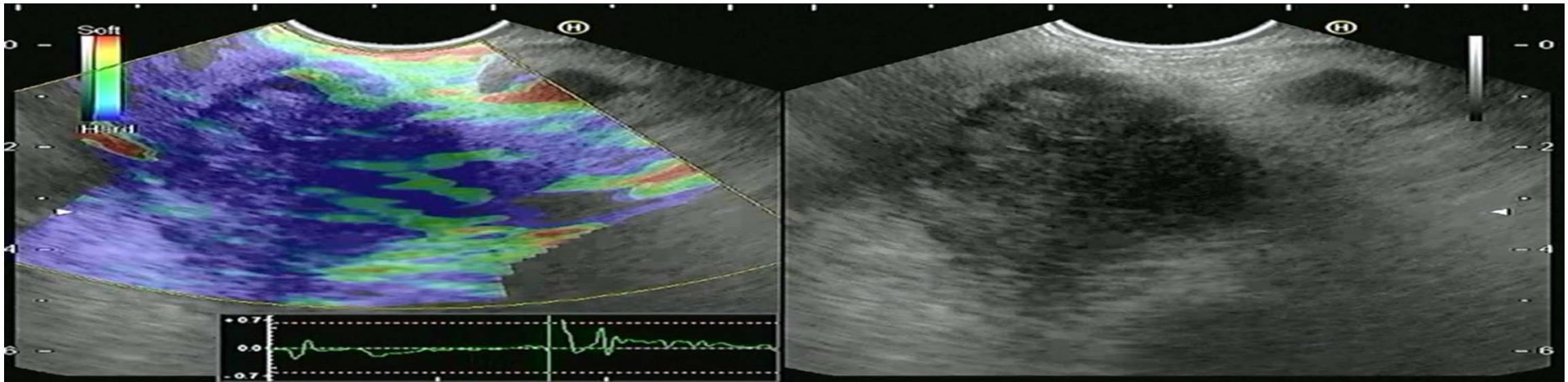
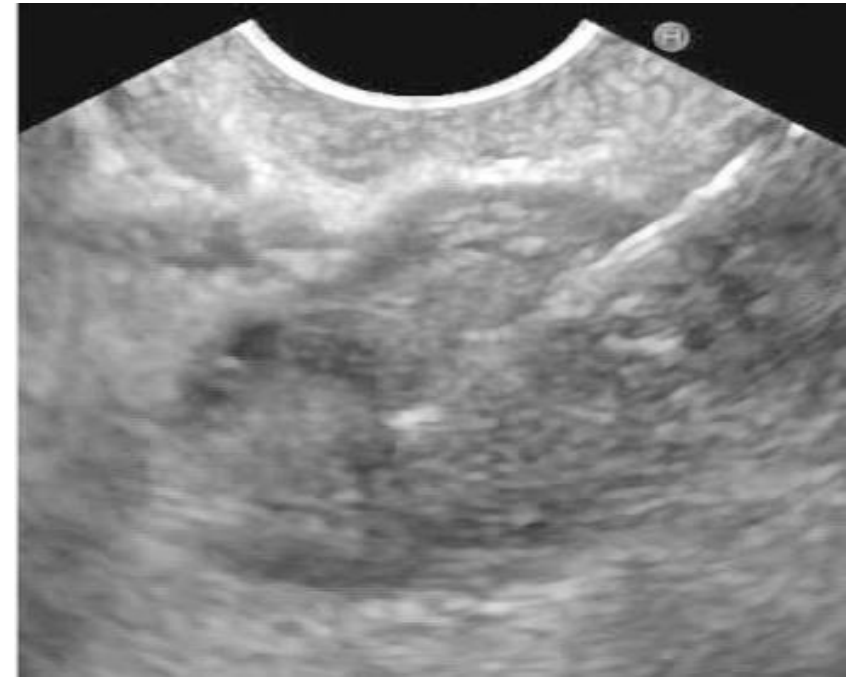


CONTRAINDICATIONS

- Previous surgery
- Large tumor mass
- Eccentric celiac origin
- Ectatic aorta
- Cachexial loss of soft tissue space between gastric wall and aorta
- Coagulopathy or severe thrombocytopenia
- Distorted anatomy
- Inability to visualize anatomical landmark

Case report

- Homme de 48 ans
- Ictère+AMG
- Syndrome douloureux abdominale 9/10
- Ne cède que par les dérivés morphiniques
- TDM/EUS+BX







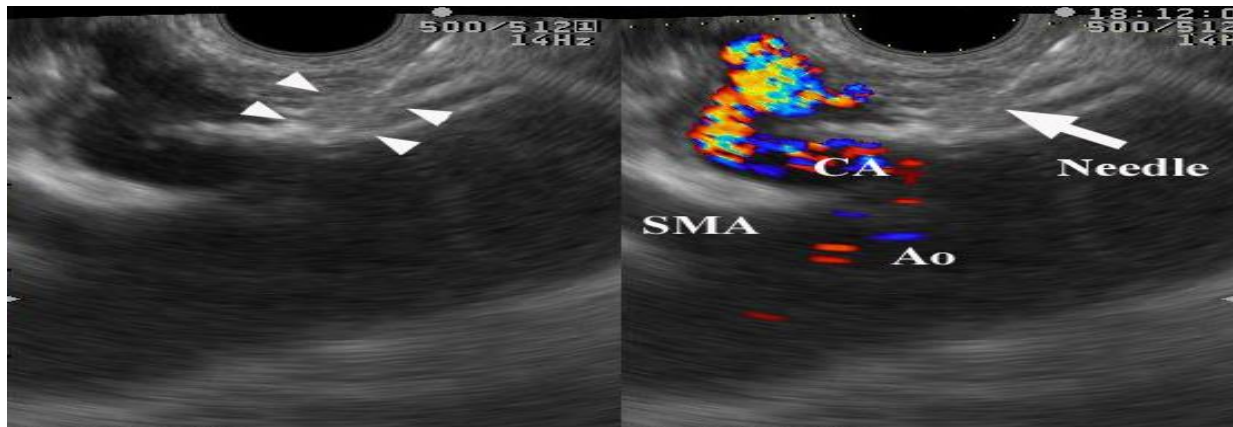
What are the risks associated with EUS CPN?

AFTER CARE

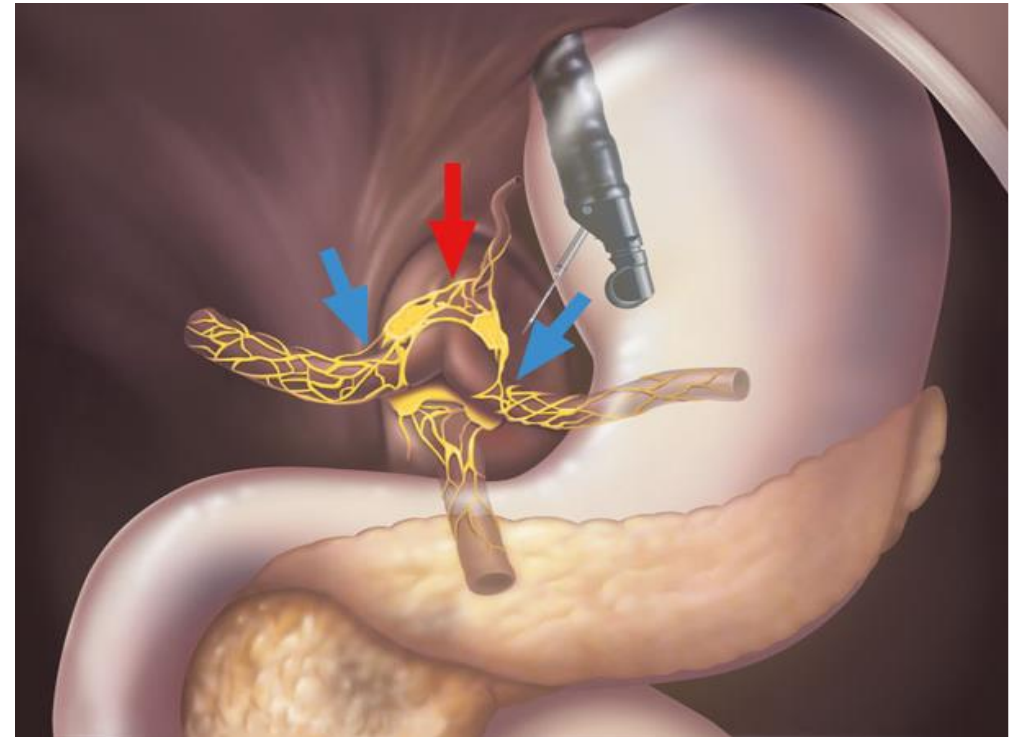
- Monitor vital sign for 2-4hrs
- Monitor for diarrhea
- Give iv FLUIDS IF HYPOTENSIVE
- Increase analgesic if needed
- Ciprofloxacin 250-500mg twice for 03 days

quels techniques ?

- 1 Central technique
- 2 bilatéral technique
- 3 CGN
- 4 Broad plexus



Central approach (endoscopic ultrasound image).

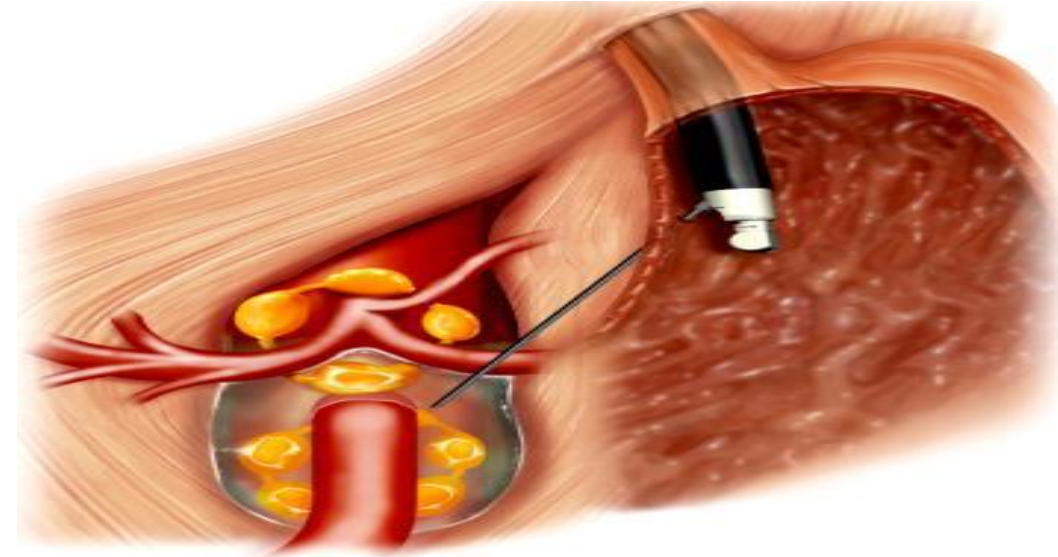


Two approaches for endoscopic ultrasoundguided celiac plexus neurolysis (EUS-CPN). In the central approach, a neurolytic agent is injected at the base of the celiac axis (red arrow). In the bilateral approach, the neurolytic agent is injected on both sides of the celiac axis (blue arrows).

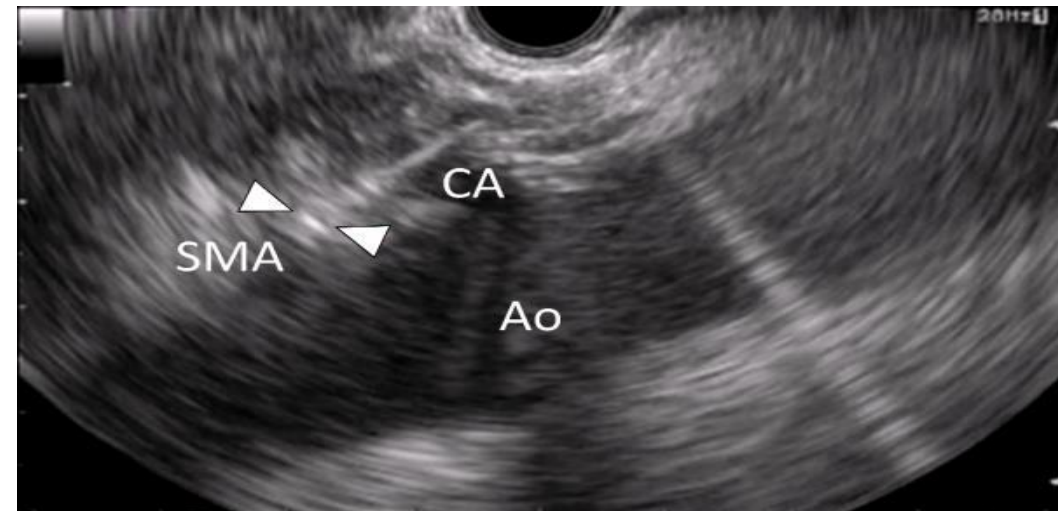
Which EUS-CPN technique is more effective: Bilateral or central injection?

➤ BILATERAL CPN BETTER THAN CENTRAL CPN

study including 160 patients, compared unilateral versus bilateral CPN or CPB. The bilateral technique achieved significantly more pain relief versus unilateral (mean percent pain reduction) 70.4% (95% CI: 61.0– 80.0) versus 45.9% (95% CI: 32.7–57.4), $P = 0.0016$, at day 7 posttreatment

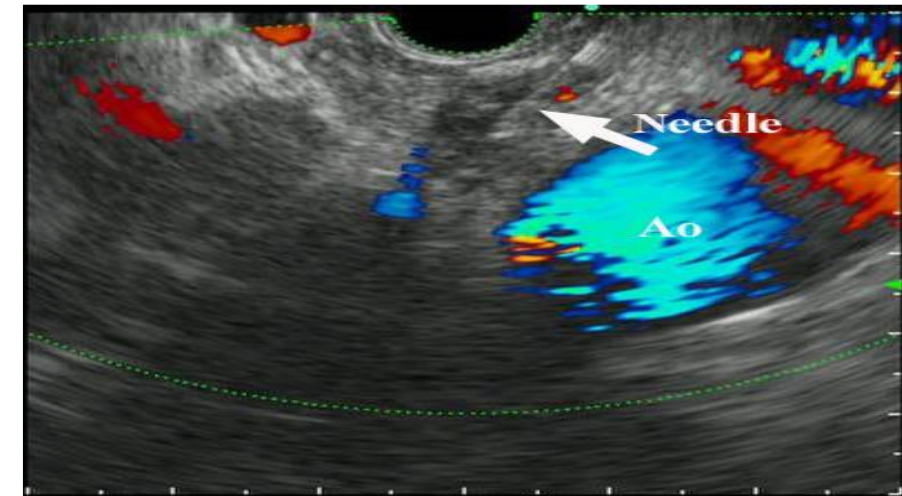
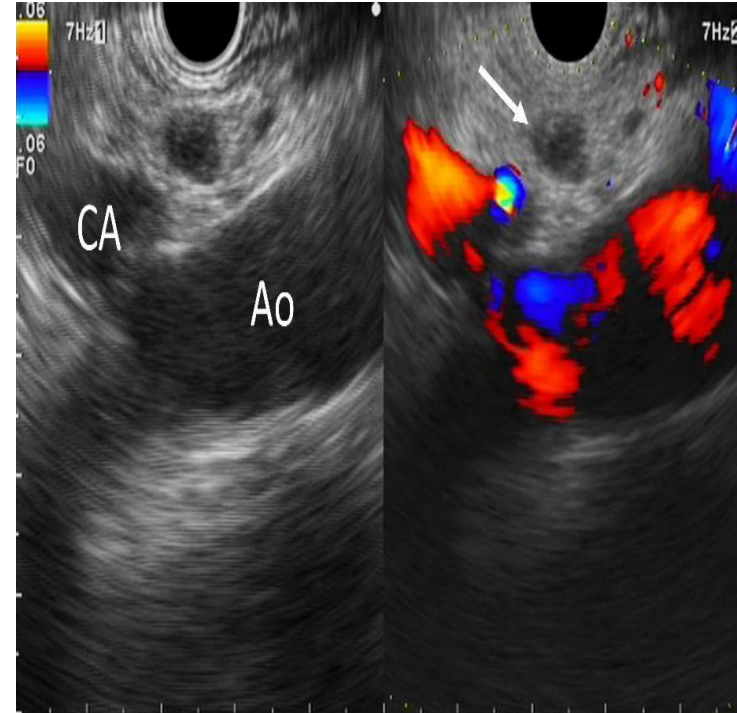
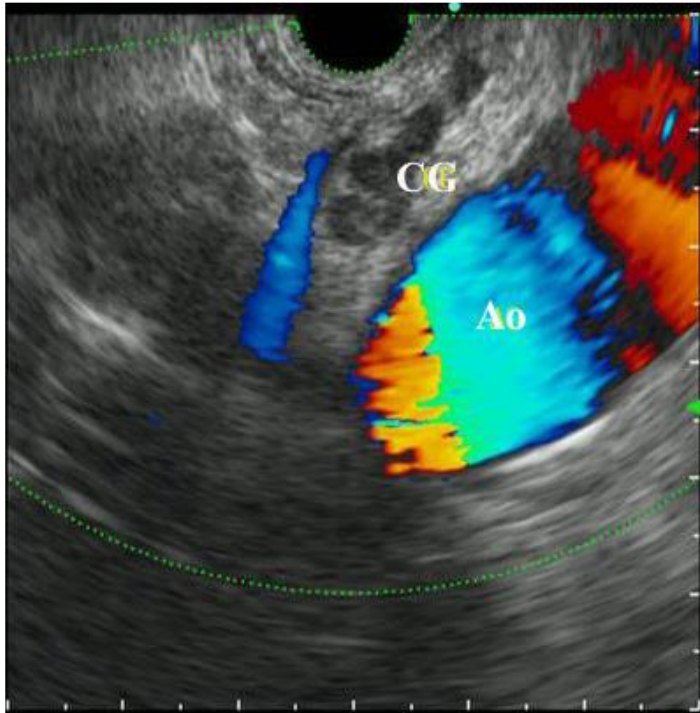
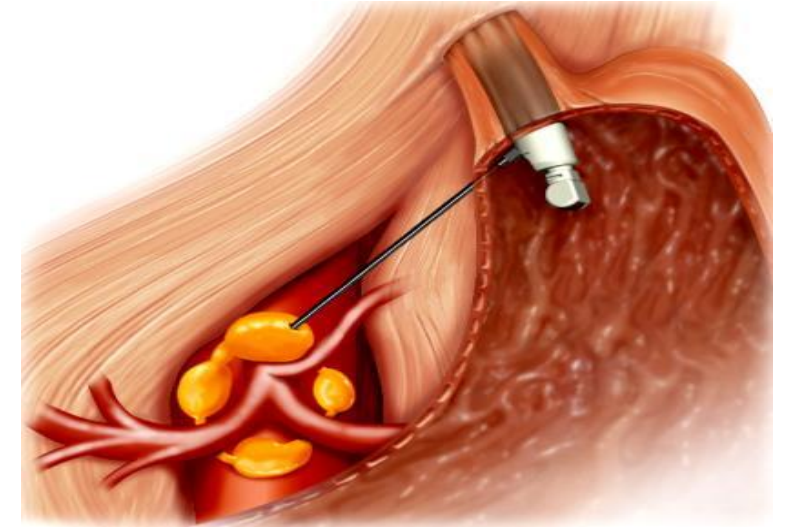


Central approach (endoscopic ultrasound image).



Should the celiac ganglion be targeted during EUS-guided neurolysis (CGN)?

Statement 4: There is no clear evidence that CGN is more superior to bilateral or broad plexus EUS-CPN (with needle advancement caudal to the base of the celiac axis). Therefore, EUS-guided CGN is not necessary.



Endoscopic ultrasound (EUS)-guided direct celiac ganglia neurolysis (EUS-CGN) (EUS image). The tip of a needle is advanced deeply within a ganglion (arrow). Thereafter, absolute ethanol is injected continuously as the needle is slowly withdrawn. After the injection, the ganglion becomes hyperechoic and difficult to visualize. Ao, aorta.

EFFICACY AND PROGNOSTIC FACTORS FOLLOWING TREATEMENT

First Author (Year) [Reference]	Study Design	No. of Patients	Procedure	Outcomes	Complications
LeBlanc (2011) [28]	Prospective Randomized	50	EUS-CPN Bilateral 21 Unilateral 29	Randomized trial; bilateral CPN vs unilateral CPN Pain relief and survival; no difference between the groups	Transient pain increase 36%, Hypotension 2%
Wiechowska-Kozłowska (2012) [29]	Retrospective Non-randomized	29	EUS-CPN Bilateral	Pain improvement; 86% Complete pain relief; 14%	Transient diarrhea 10.3%, Hypotension 3.4%, Pain increase 6.9%
Wang (2012) [32]	Prospective Non-randomized	23	EUS-guided irradiation	EUS-guided celiac ganglion irradiation (iodine-125 seeds) Pain improvement in 82.6% of patients at 2 weeks	No major complications Constipation 21.7% Nausea 8.7%
Leblanc (2013) [33]	Prospective Randomized	20	EUS-CPN Unilateral (+EUS-CGN)	Randomized trial; EUS-CPN using 10 mL vs. 20 mL alcohol Similar clinical outcomes between the groups	Self-limited complications Lightheadedness 5% Diarrhea 10% Nausea 15%
Seicean (2013) [34]	Retrospective Non-randomized	32	EUS-CPN Unilateral	Pain improvement in 75% of patients	No complications
Doi (2013) [35]	Prospective Randomized	68	EUS-CGN 34 EUS-CPN 34	Randomized trial; EUS-CGN vs. EUS-CPN (unilateral) Pain improvement; 73.5% (CGN) vs. 45.5% (CPN) Complete pain relief; 50% (CGN) vs. 18.2% (CPN)	Transient hypotension 4.5%, Inebriation 3.0%, Pain increase 25.4%, Diarrhea 7.9%
Téllez-Ávila (2013) [37]	Retrospective Non-randomized	53	EUS-CPN Unilateral 21 Bilateral 32	Bilateral vs. unilateral CPN No significant difference between the groups	No major complications Transient pain increase 1.9%
Sijie (2014) [36]	Retrospective Non-randomized	41	EUS-CGN 26 EUS-CPN 15	Pain improvement in 90.2% and 61.0% of patients at 1 week and at 3 months, respectively	Transient hypotension 4.9%
Khiwari (2014) [38]	Retrospective Non-randomized	22	EUS-CPN Phenol 6 Ethanol 16	Pain improvement in 83% and 69% of patients in the phenol and ethanol groups, respectively	Minor complications Phenol group 16.7%, ethanol group 37.9% Inebriation 12.5% (ethanol group)

➤ COMPLICATIONS

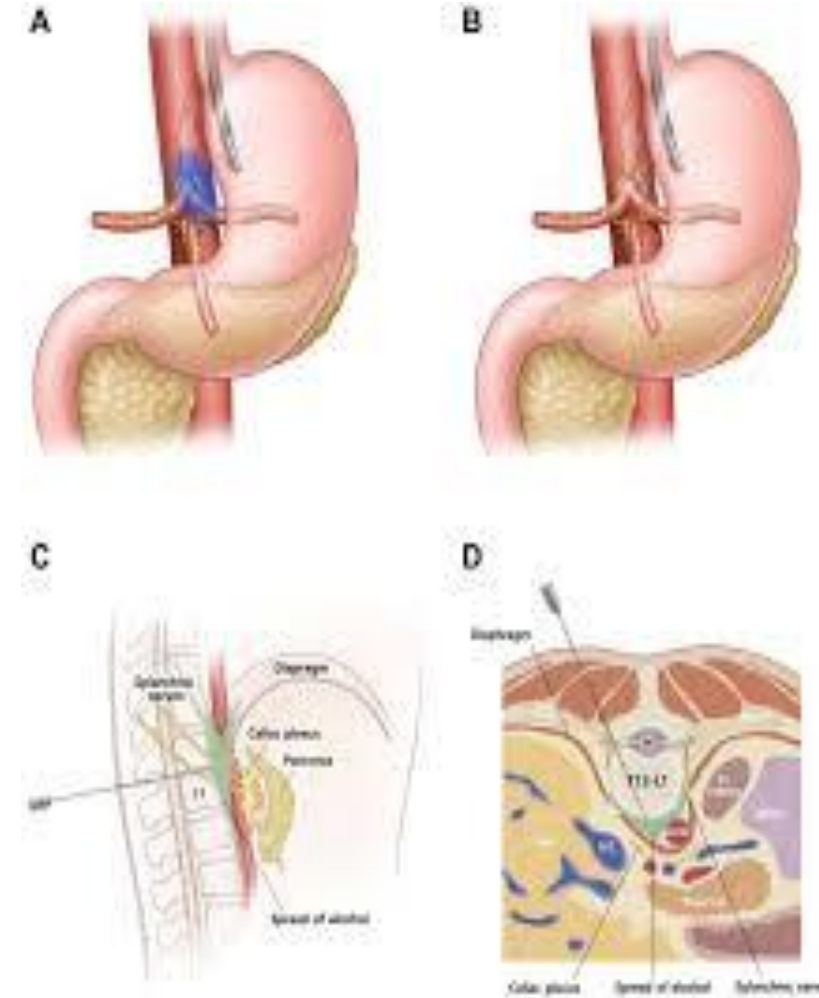
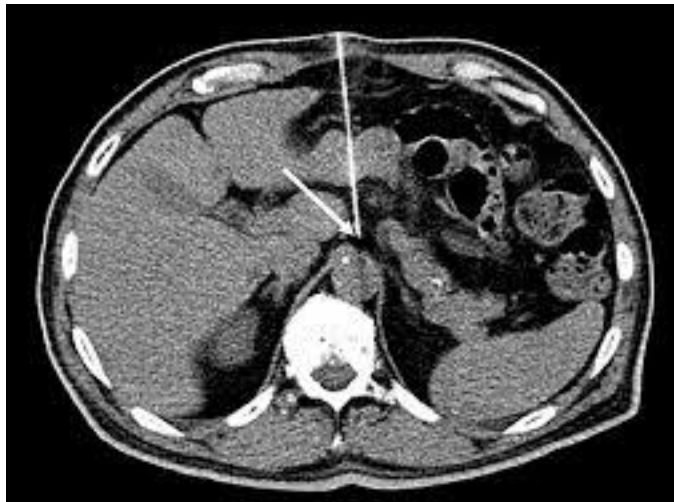
First Author (Year) [Reference]	Complications	Procedure	Neurolytic Agent/s/Anesthetic Agents	Outcomes
Muscattello (2006) [46]	Retroperitoneal abscess	CPN	Alcohol/Bupivacaine	EUS-guided puncture, complete resolution
Mittal (2012) [48]	Paraplegia	CGN + CPN	Alcohol/Bupivacaine	No improvement
Fuji-Lau (2012) [49]	Paraplegia	CGN + CPN	Alcohol/Bupivacaine	No improvement
Gimeno-García (2012) [50]	Celiac artery thrombosis, hepatic, kidney, splenic infarction, bowel ischemia	CPN Bilateral	Alcohol/Bupivacaine	Conservative treatment, died 8 days later
Jang (2013) [51]	Hepatic, splenic infarction, bowel ischemia	CPN Unilateral	Alcohol, triamcinolone acetonide/Bupivacaine	Conservative treatment, died 27 days later
Minaga (2016) [52]	Paraplegia	CPN Bilateral	Alcohol/Lidocaine	No improvement
Mulhall (2016) [54]	Bilateral diaphragmatic paralysis	CPN	No description	Mechanical ventilation, no improvement
Köker (2017) [55]	Paraplegia	CPN Bilateral	Alcohol/Bupivacaine	No improvement

Bloc du plexus cœliaque et neurolyse guidés par échoendoscopie
[Ichiro Yasuda](#), [Hsiu-Po Wang](#)
 Première publication : 3 février 2017

Which CPN technique is the most effective for pain due to pancreatic cancer: percutaneous (PQ) or EUS-guided?

l'EUS-CPN semble être aussi efficace, voire plus efficace, pour contrôler la douleur.

Dans une méta-analyse de 2013, Nagels *et al* . ont inclus 5 ECR (265 patients) démontrant une amélioration des scores de douleur pour la PQ-CPN par rapport à la SAT à 1-2 semaines (différence de 0,87 ; intervalle de confiance [IC] à 95 % : [-1,47 ; -0,28], $p = 0,004$)



CONCLUSION

- UEUS-CPN IS A safe and effective method for reducing pain originating from the upper abdominal organs, especially pancreatic cancer pain.
- Bilateral EUS-CPN may be more effective than central EUS-CPN, although central
- EUS-CPN is easier and possibly safer. EUS-CGN may provide better pain relief than central EUS-CPN without increasing the risk of complications.
- However, further studies are required to reach more reliable conclusions.