



Consensus guidelines in EUS guided injection therapies

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Consensus guidelines on EUS guided injection therapies. Results from an international RAND/UCLA expert panel from the Asian EUS group

1. EUS guided celiac plexus ablation
2. EUS guided pancreatic cyst ablation
3. EUS guided fiducial marker and radioactive seeds insertion

Guidelines on EUS guided celiac plexus ablation

- 18 statements
- 3 rounds of voting for appropriateness and 1 for necessity

Statement 1

- EUS-guided celiac plexus neurolysis (EUS-CPN) can be performed in patients with upper abdominal cancer pain particularly for pancreatic cancer.
- Appropriateness median 9
- Necessity median 8.5

Statement 2

- The role of EUS-guided celiac plexus block (EUS-CPB) for treatment of pain arising from chronic pancreatitis is still controversial.
- Appropriateness median 9
- Necessity median 8

Statement 3

- EUS-guided approach may make the procedure safer and more effective than percutaneous image-guided techniques.
- Appropriateness median 9
- Necessity median 8

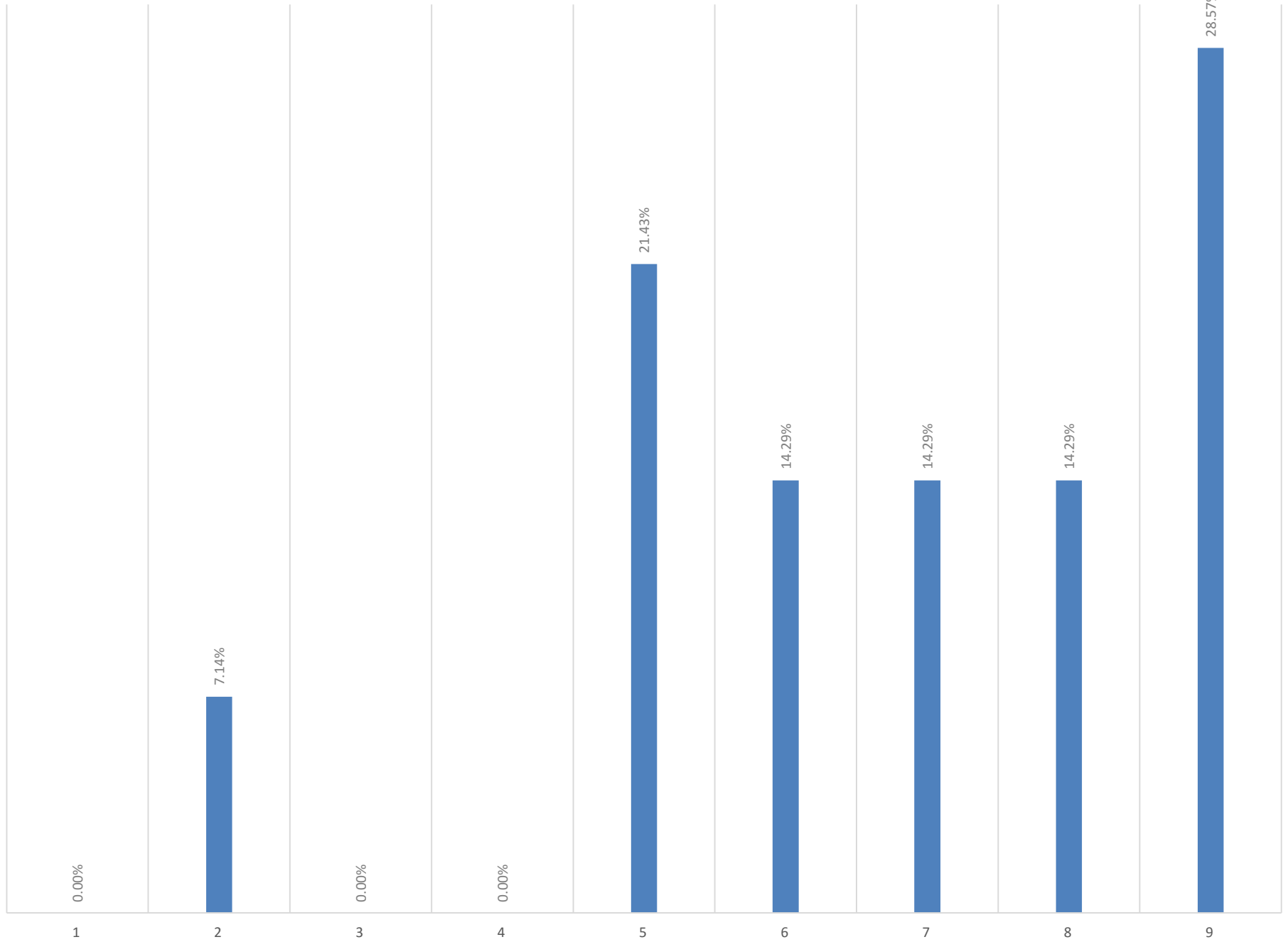
Statement 4

- EUS-CPN could be performed with single or bilateral injections, injection into the ganglia or broad plexus injections.
- Appropriateness median 9
- Necessity median 9

Statement 5

- Prophylactic antibiotics may be given when bupivacaine with steroids are used for celiac plexus block.
- Appropriateness median 8
- Necessity median 7 (> 30 % disagreement)

STATEMENT 5



Statement 6

- 10-20ml of absolute ethanol is usually used for EUS-CPN and the volume may be reduced in the EUS-CGN.
- Appropriateness median 9
- Necessity median 8

Statement 7

- Phenol may be used instead of alcohol for EUS-guided celiac neurolysis in patients with alcohol intolerance, but the comparative efficacy and safety of the two agents requires further studies.
- Appropriateness median 8
- Necessity median 8

Statement 8

- The celiac ganglia can be identified between the aorta and the left adrenal gland in most patients and may be located cephalad to the origin of the celiac axis in others.
- Appropriateness median 8
- Necessity median 8

Statement 9

- The percutaneous approach has been shown to reduce pain, opioid consumptions and constipation in patients with painful inoperable pancreatic cancer as compared to best medical therapy.
- Appropriateness median 8
- Necessity median 8

Statement 10

- Early EUS-CPN at the time of EUS-guided fine needle aspiration reduces pain and may moderate opioid consumption as compared to best medical therapy.
- Appropriateness median 8
- Necessity median 7.5

Statement 11

- There is limited data comparing the EUS guided approach with percutaneous alternatives to the procedure.
- Appropriateness median 8
- Necessity median 8

Statement 12

- In EUS-CPN, single or bilateral injections could be performed but evidence is contradicting on showing which approach is superior.
- Appropriateness median 8
- Necessity median 8.5

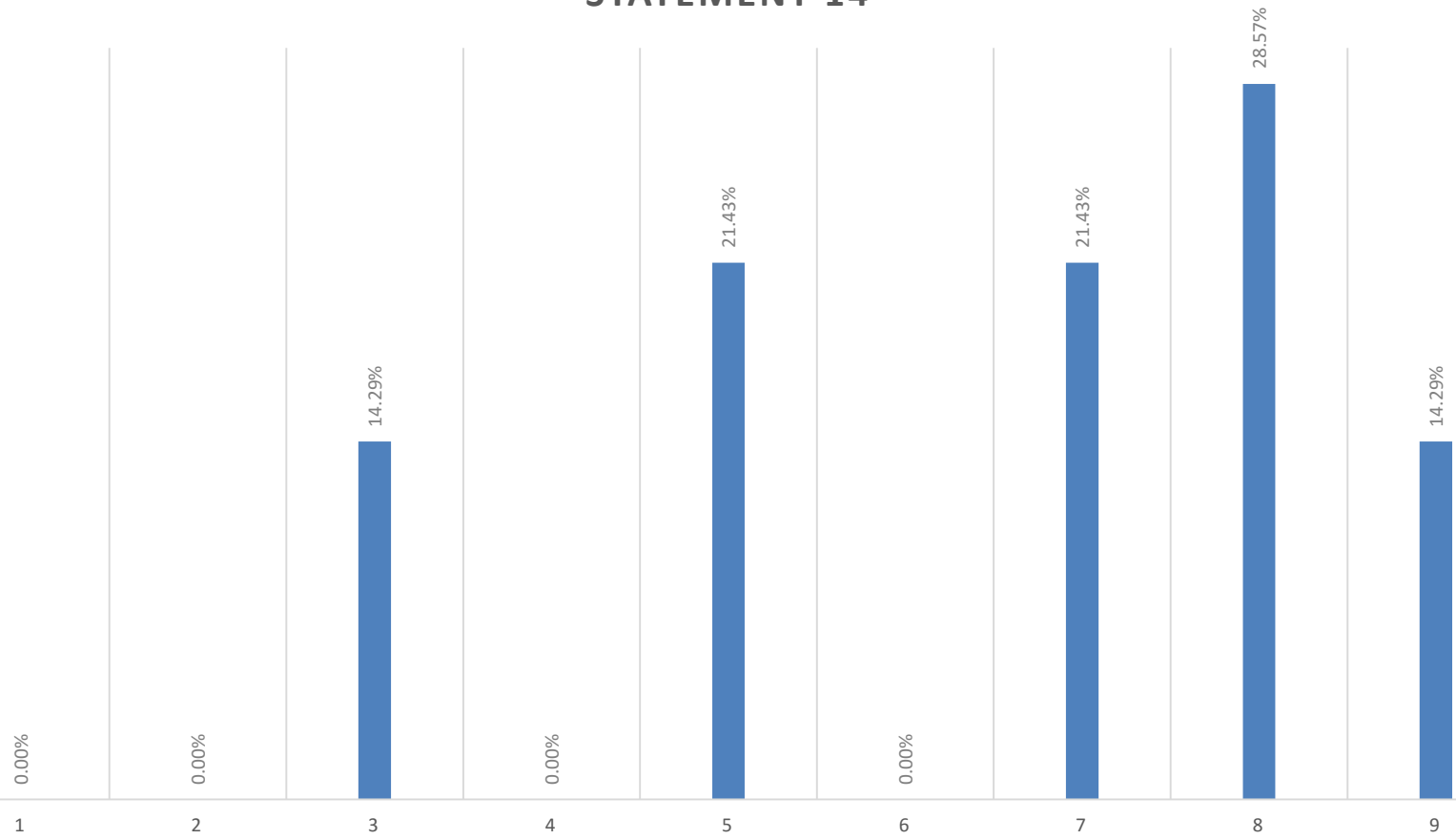
Statement 13

- EUS-guided celiac gangliolysis may provide greater pain relief than single or bilateral injections around the celiac artery.
- Appropriateness median 8
- Necessity median 8

Statement 14

- Celiac broad plexus neurolysis (injection along the celiac artery, superior mesenteric arteries and inferior mesenteric artery) may provide better pain relief than injections around the celiac artery alone.
- Appropriateness median 7
- Necessity median 7 (>30% disagreement)

STATEMENT 14



Statement 15

- The complications of EUS-CPN and CGN are generally minor and may include transient pain exacerbation, hypotension, diarrhea and inebriation.
- Appropriateness median 9
- Necessity median 8

Statement 16

- Major complications such as retroperitoneal bleeding, abscess and ischemia-related complications rarely occur after EUS-CPN or EUS-CPB.
- Appropriateness median 9
- Necessity median 8

Statement 17

- EUS-CPN should be done at expert centres with experience and expertise in EUS.
- Appropriateness median 9
- Necessity median 9

Statement 18

- EUS-CPN should be performed by doctors/endoscopists experienced in EUS and EUS-FNA.
- Appropriateness median 9
- Necessity median 9

Conclusions

- All statements appropriate
- All statements are necessary except statement 5 & 14

Guidelines on EUS guided pancreatic cyst ablation

- 14 statements
- 2 rounds of voting for appropriateness

Statement 1

- EUS-guided PCT ablation can be conducted by ethanol lavage or ethanol retention therapy with/without paclitaxel injection.
- Appropriateness median 8
- **Comments for Statement 1**
- consensus has not been confirmed, then" if we perform" is necessary
- as per available literature, these therapies appear to be good but needs more validation and will require definite indications

Statement 2

- EUS-guided ablation therapy can be a treatment option of pancreatic cystic tumor with presumed diagnosis of mucinous cystic neoplasm or indeterminate cystic tumor who are not suitable or not willing to undergo a surgical intervention.
- Appropriateness median 8 - **Comments**
- not so many data
- statement is true provided these patients require intervention, like small asymptomatic MCN/cystic lesion may not require treatment
- To my knowledge the data for this is still limited to a few specialized centers but seems to be the most appropriate indication.

Statement 3

- Unilocular or oligolocular cystic tumor 2 to 5 cm in size can be treated with EUS-guided therapy.
- Appropriateness median 7
- Comments
- also not so many data
- TRUE

Statement 4

- EUS-guided ablation therapy of pancreatic cystic tumors is relatively contraindicated if there is evidence of malignant transformation, MPD communication or close location to the main PV/SMV
- Appropriateness median 8

Statement 5

- Before therapy, radiologic imaging including CT and/or MRCP and EUS imaging are required to check the morphology, locularity, presence of mural nodules, MPD communication and proximity to larger vessels.
- Appropriateness median 9

Statement 6

- Although existing evidences are limited, prophylactic antibiotics are recommended before ablation.
- Appropriateness median 8
- Comments
- may not be required as antibiotics are not required in alcohol celiac neurolysis because alcohol is antiseptic agent
- No evidence. should be omitted.

Statement 7

- For cystic fluid aspiration, 22G or 19G needle can be used to cover more than one locule at the time of puncture.
- Appropriateness median 8

Statement 8

- It is recommended to aspirate more than 80% of cystic fluid before ethanol injection.
- Appropriateness median 8

Statement 9

- Depends on the size of the cyst, the amount of paclitaxel required for injection ranges from 3mg to 30mg.
- Appropriateness median 7
- Comments
- no comment
- too detailed information

Statement 10

- Possible complications include abdominal pain, transient fever, transient hyperamylasemia, pancreatitis, venous thrombosis and spillage of cystic fluid.
- Appropriateness median 9

Statement 11

- Follow-up imaging studies are recommended at 3, 6, 12 months after initial treatment in the first year.
- Appropriateness median 8

Statement 12

- Centers performing EUS-guided PCT ablation should have multidisciplinary support including surgeons and interventional radiologists.
- Appropriateness median 9

Statement 13

- Endosonographers who are performing PCT ablation should have ample experience in EUS-FNA.
- Appropriateness median 9

Statement 14

- Endosonographers performing the procedures should understand the techniques of cyst puncture, maintaining needle tip position and targeting multiple locules in a single puncture.
- Appropriateness median 9

EUS guided fiducial marker and radioactive seeds insertion

- Statements to be formulated
- ZD Jin and YB Teoh

Conclusion

- EUS guided celiac plexus ablation statements are all appropriate and necessary
- EUS guided cyst ablation statements require further voting
- EUS guided fiducial marker and radioactive seeds insertion statements need to be formulated