Optimal Imaging for procedural planning and guidance of procedures

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Disclosure

Speaker name:
......Dr. Giovanni F. Torsello..................................

I have the following potential conflicts of interest to report:

☐ Consulting
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☒ I do not have any potential conflict of interest
Preoperative Imaging
We don’t know if patient has AAA

Do we have time?

Yes

DUS: AAA present?

Yes

CT

No

Angiosuite/OR

No: Probably also CT

Yes: CT
Why not use CT in any case?

Ultrasound… is widely available

is much cheaper than other modalities

means no radiation for the patient

has no negative effect on kidney function, even when using contrast-enhanced ultrasound

BUT

might be limited by bowel gas or obesity

might not be able to depict thoracoabdominal or iliac segments

is highly dependent on examiner skill!!
CTA is best for planning

1. It is fast
2. It shows the extent of the disease
3. It provides high-resolution datasets for planning (complex AAs!!)
What if renal function is impaired?

Noncontrast MRA

CE-MRA

Intraarterial CTA
Procedure Guidance
DSA  Roadmapping / Overlay  Fusion
Saving contrast and radiation
Saving even more radiation

Pictures shown by Joost van Herwaarden (UMC Utrecht) at LINC 2019
Post-Procedure Imaging
No brainer?

Everything that applies to pre-procedure imaging is also true for post-procedure imaging.

Consider artifacts!
Conclusions

• Favor CTA if possible

• MRA is a good alternative, but more prone to artifacts

• DUS/CEUS is a good option for the abdominal segment, but is patient and examiner dependent

• Guidance should focus on accuracy and radiation reduction

• Adapt your follow-up imaging to your specific needs
Thank you for coming!
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