Automatic aortic volume measurement using AI solution EndoArt

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Disclosure

Speaker name:
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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
Is maximum diameter the best tool?
Volume vs. Diameter

19 studies (n = 1690) comparing volume and diameter measurements in the diagnosis and prognosis of AAA.

- Two studies reported no prognostic difference between volume and diameter measurement
- Seventeen manuscripts appeared to favor volume.
Other methods to evaluate AAA post EVAR

• Neck dilatation
• Stentgraft apposition:
  • Area
  • Length
Increasing number of CT scans

• 2012-2019
  • CT RVUs increased by 52%
  • brain CT, increased by 33%
  • abdominal CT, increased by 70%
ENDO ART

AI based tool for aortic segmentation and automatic measurement
Automatic aortic segmentation
Contrast media volume and aortic sac volume
Lowest renal artery and max diameter planes

**Study: Project**

- Diameter: 53 mm
- Inner Volume: 82.0 cm³
- Outer Volume: 212.8 cm³
Ability to compare follow up studies
How precise is the tool?

• A pilot study
  • 6 CT angiography scans
  • Every slice was annotated manually marking aortic wall and contrast media by consultant radiologist
  • Scans annotated using AI solution
  • Annotations in every slice were compared

• DICE index for contrast media 0.93
• DICE index for vessel wall 0.91
Thank you
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