



西安交通大学
XI'AN JIAOTONG UNIVERSITY

GREAT RESEARCH NEEDS
A GREAT AUDIENCE.

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Application of Double Low-Dose Contrast Agent and Optimal Gemstone Spectral Imaging in Head CT Angiography

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CONTENS



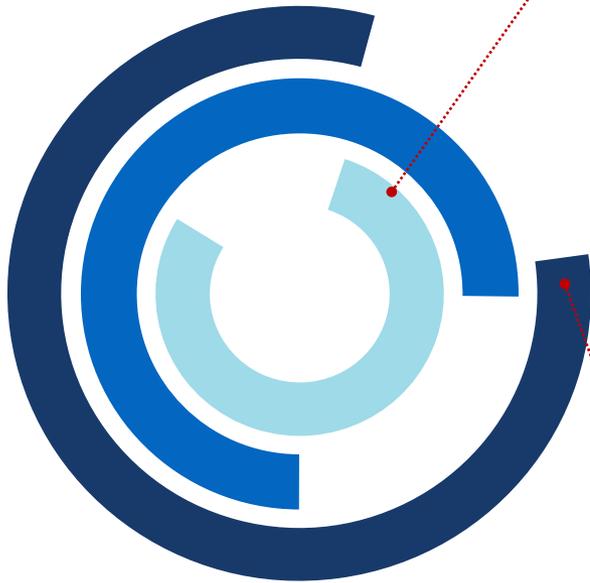
Background

Methods

Results

Conclusions



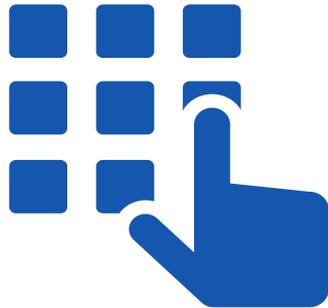


CT is widely used in clinics, but when CT itself emits ionizing radiation, there are concerns about radiation exposure. Reducing radiation dose will inevitably affect the image quality of CT.

One of the shortcomings of CTA imaging is that the injection of contrast agent has nephrotoxic effects on patients, especially in patients with renal insufficiency. The principle of using as little contrast agent as possible must be observed.



Methods

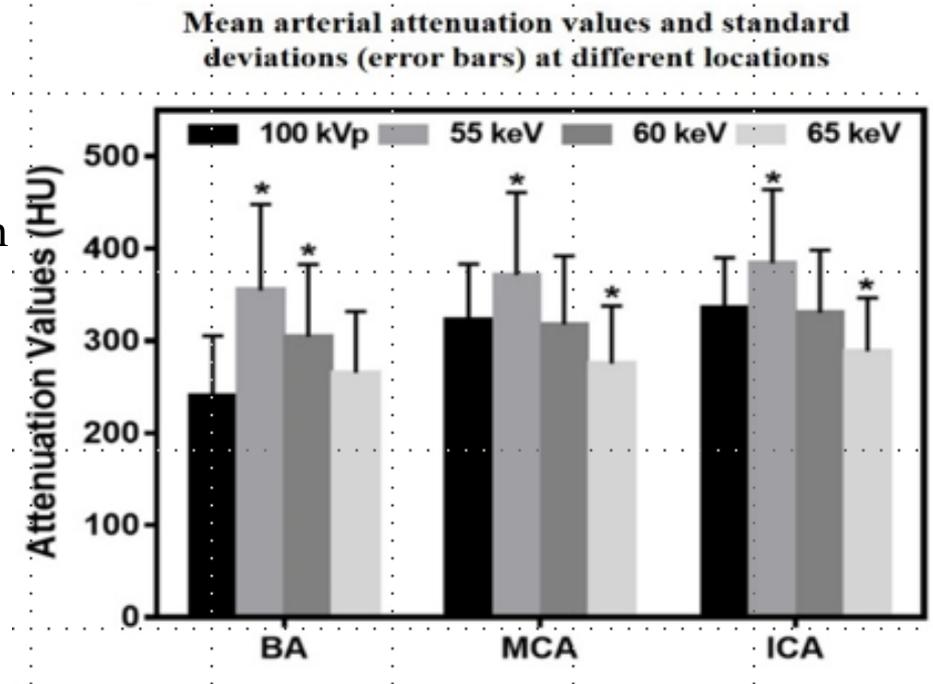


methods

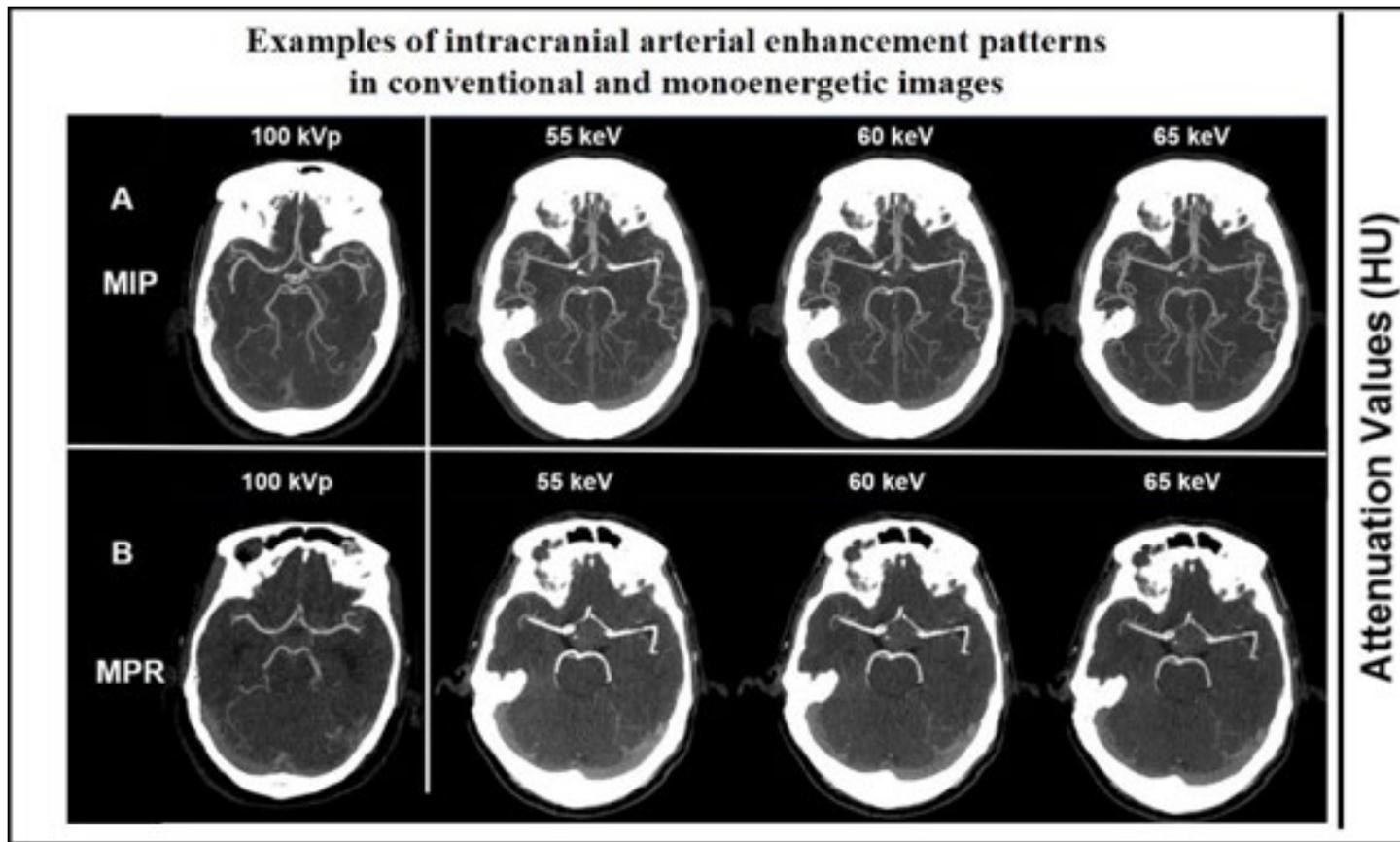
- 1 54 patients receiving CTA of the head
- 2 256-slice CT system (GE Revolution, GE Healthcare, USA).
- 3 Double Low-Dose Contrast Agent
- 4 Optimal Gemstone Spectral Imaging
- 5 The images were reconstructed and the data were sent to the working station for analysis

Compared with conventional 100 kVp images, there was significant difference between the CT value of BA, MCA and ICA in 55 keV reconstructed images ($P < 0.05$).

For qualitative scores of conventional and monoenergetic images, 60 ± 5 keV reconstructed images rated was substantially similar with 100 kVp images



Results



Conclusions

- 25 mL CM to reconstruct optimal gemstone spectral 55 keV image, could improve CT value.
- Reduced about 37.5 % of CM comparing with General-Dose Group
- Reduce the risks of cardiac-cerebral vascular diseases

