

RCEM Conference Abstract

Authors

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Title

Acute Aortic Syndrome (AAS) in NHS Lothian: a local retrospective case note review

Background

AAS is a group of life-threatening acute aortic pathologies, with a high mortality rate, affecting 4000 people in the UK annually^{1,2}. CTA is the preferred imaging modality^{3,4} but many cases are not suspected⁵ and do not undergo CTA in the emergency department (ED). However, unrestricted CTA use leads to significant costs, ionising radiation risks, CT delays for non-AAS patients and the burden of 'incidentalomas'. Clinical decision-making tools, such as ADD-RS, may be useful adjuncts, but none are validated for use in the UK.

Aims

To establish Computed Tomography thoracic aorta (CTA) practice for AAS in NHS Lothian from 2018 to 2020.

Methods

A retrospective case note review was performed of all patients who underwent a CTA after presenting to two large NHS Lothian EDs. Previously published case note review criteria were followed throughout, where possible.

Results

43 cases of AAS were diagnosed by CTA between 1st January 2018 and 31st December 2020 (13 in 2018, 12 in 2019 and 18 in 2020), with a mean age of 68.5 years; 24 males and 19 females. The use of CTA was steady with 290, 321 and 285 scans performed annually. The diagnostic rate of CTA for AAS rose from 4.5% in 2018 to 6.3% in 2020.

When applying the ADD-RS retrospectively, 21 (49%) patients had a score of 1, 20 (47%) a score of 2 and 2 (5%) a score of 3. Of the 21 patients who had an ADD-RS

score of 0 or 1 (2+ should go straight to CTA), 11 had D-dimer measured, all were raised.

Conclusions

Locally our number of AASs diagnosed by CTA is increasing with no obvious increase in CTA requesting. Diagnostic rate of CTA ranges between 3.7 and 6.3%. Clinical decision-making tools such as ADD-RS, may determine patients at higher risk of AAS and thus reduce unnecessary CTA scanning with its associated radiation exposure risk.

References

1. Mahase, E. Half of patients with acute aortic dissection in England die before reaching a specialist centre. *BMJ* **368**, (2020)
2. Thrumurthy, S. G., Karthikesalingam, A., Patterson, B. O., Holt, P. J. E. & Thompson, M. M. The diagnosis and management of aortic dissection. *BMJ* **344**, d8290 (2012).
3. Sommer, T. et al. Aortic dissection: a comparative study of diagnosis with spiral CT, multiplanar transesophageal echocardiography, and MR imaging. *Radiology* **199**, 347–352 (1996).
4. Yoshida, S. et al. Thoracic Involvement of Type A Aortic Dissection and Intramural Hematoma: Diagnostic Accuracy – Comparison of Emergency Helical CT and Surgical Findings. *Radiology* **228**, 430–435 (2003).
5. Lovy, A., Bellin, E., Levsky, J. M., Esses, D. & Haramati, L. B. Preliminary Development of a Clinical Decision Rule for Acute Aortic Syndromes. *The American Journal of Emergency Medicine* **31**, 1546-1550 (2013).