Case Study

Acute aortic syndrome with vHP 3 phase

"With the novel ability to prescribe three variable parameter settings, optimal for ECG gating, exposure and speed requirements within a single acquisition, vHP3 provides a non-compromised imaging solution for whole aorta evaluation in a single, fast acquisition."

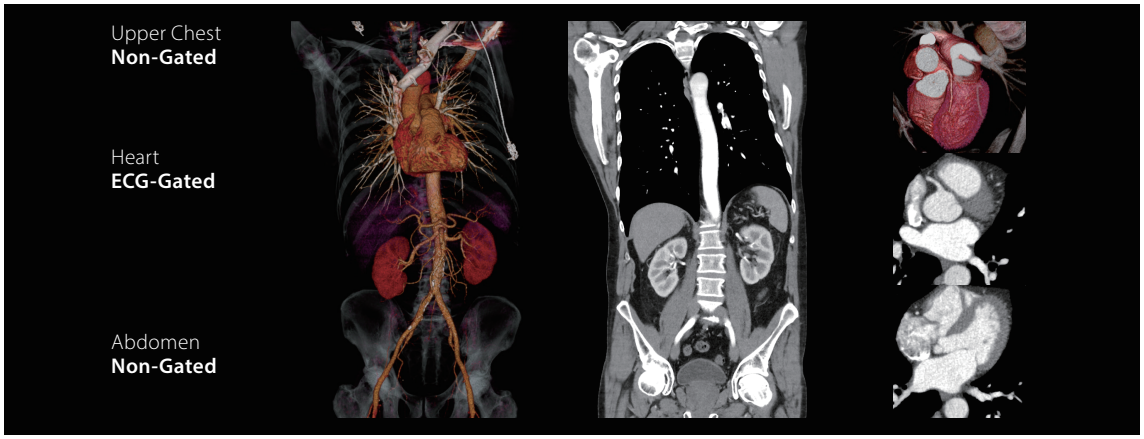
Dr. Mark Kon
Bradford Teaching Hospitals
Bradford, United Kingdom

Patient History

A 50-year-old man presented with hypertension and chest and back pain. Blood pressure measurements in both arms showed a difference in systolic pressure of 30 mmHg. Emergency department physicians were concerned about acute aortic syndrome, specifically aortic dissection.

The patient underwent imaging of the whole aorta with 75 mls of iodinated contrast 300 mgI/ml at 5 ml/s. Heart rate was already controlled as part of hypertension management and prospective ECG-gated acquisition was performed as part of the vHP3*1 protocol.

Results

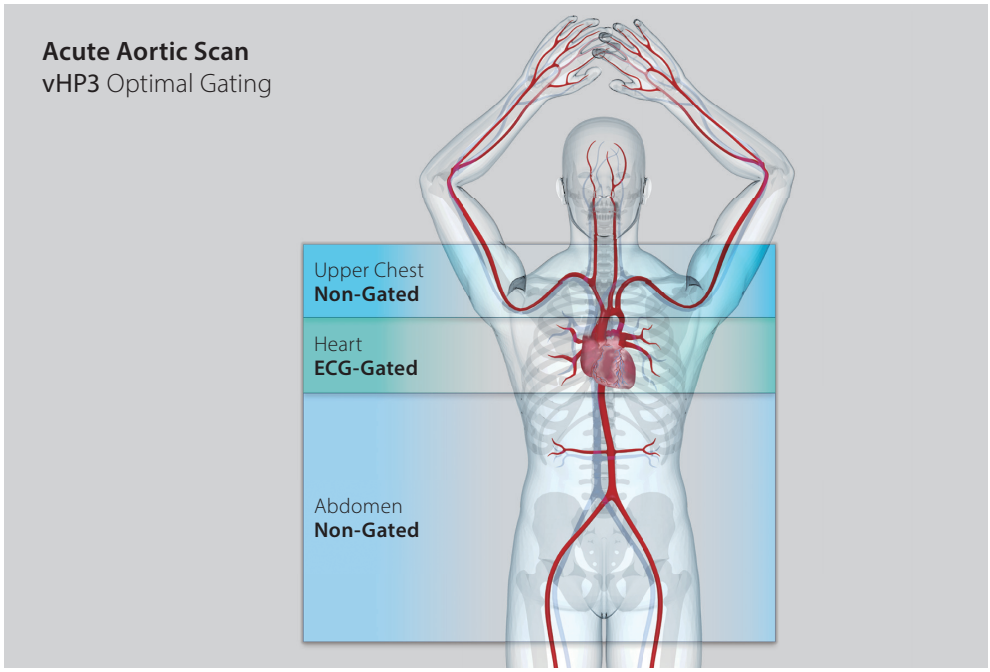


A seamless acquisition of the entire aorta from aortic arch to femoral arteries was obtained to rapidly exclude aortic dissection. ECG-gated imaging of the heart and aortic root allowed confident exclusion of valve pathology and obstructive coronary artery disease. The patient was discharged on anti-hypertensive medication and planned routine outpatient review.

Technology

The assessment of acute aortic syndrome comprises imaging of three distinct regions, 1) the aortic arch and brachio-cephalic arteries, 2) the heart and aortic root and 3) the abdominal aorta and femoral arteries. It is essential to capture the aortic root without pulsatile motion and this has often required an additional ECG-gated scan.

vHP3 provides a single acquisition, applying ECG-gated only through the heart, which may help reduce contrast media requirements with an overall lower radiation dose.



Conclusion

The all new vHP3 provides the flexibility of performing three separate scans into a seamless acquisition to potentially save radiation dose, contrast dose, or both.

Acquisition

Scanner Model:	Aquilion Prime SP
Scan Mode:	vHP*2
Collimation:	0.5 mm x 80
Exposure:	100 kV SUREExposure 1) Standard 2) Cardiac 3) Standard
Rotation Time:	0.35 second
Dose Reduction:	AIDR*3 3D Enhanced
CTDI:	10 mGy
DLP:	732.4 mGy·cm
Effective Dose:	10.62 mSv
k-factor:	0.0145*4

*1 Option
*2 Variable Helical Pitch
*3 Adaptive Iterative Dose Reduction
*4 American Association of Physicists in Medicine (AAPM) Report 96, 2008.

CANON MEDICAL SYSTEMS CORPORATION
https://global.medical.canon

Model number: TSX-303B MCACT0310EAA 2018-02 CMSC/Produced in Japan

Canon Medical Systems Corporation meets internationally recognized standards for Quality Management System ISO 9001, ISO 13485. Canon Medical Systems Corporation meets the Environmental Management System standard ISO 14001.

Clinical results may vary due to clinical setting, patient presentation and other factors.

Made For life