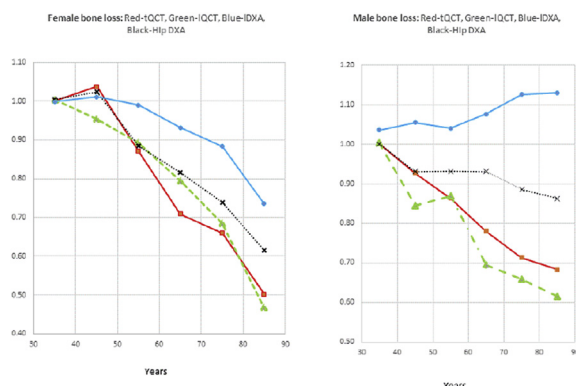


reference value (BMD value of 20–30 years). The age-related bone loss rate was computed and compared within the thoracic QCT and the lumbar QCT, lumbar and hip DXA.

Results: Thoracic QCT demonstrated a significant higher rate ($p < 0.001$) than the hip DXA, and a similar rate as lumbar QCT to predict the age-related bone loss (see fig).

Conclusions: The thoracic QCT based on existing CT lung or heart scan may provide a more sensitive assessment of bone loss than DXA, with no additional radiation or cost.



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RADIOLOGIST OPINIONS REGARDING REPORTING INCIDENTAL CORONARY AND CARDIAC CALCIFICATION ON THORACIC CT

M. Williams¹⁴, J. Weir-McCall¹³, A. Moss¹, M. Schmitt⁴, J. Stirrup⁷, B. Holloway⁶, D. Gopalan², A. Deshpande¹², G. Morgan Hughes⁵, B. Agrawal¹⁰, E. Nicol⁹, G. Roditi³, J. Shambrook¹¹, R. Bull⁸. ¹Alastair Moss, Edinburgh, United Kingdom; ²Deepa Gopalan, Imperial College London, United Kingdom; ³Glasgow Royal Infirmary, Glasgow, United Kingdom; ⁴Manchester University Foundation Trust, Manchester, United Kingdom; ⁵Plymouth Hospitals NHS Trust, Plymouth, United Kingdom; ⁶Queen Elizabeth Hospital, Birmingham, United Kingdom; ⁷Royal Berkshire Hospital, Reading, United Kingdom; ⁸Royal Bournemouth Hospital, Bournemouth, United Kingdom; ⁹Royal Brompton Hospital, London, United Kingdom; ¹⁰Royal Papworth Hospital, Cambridge, United Kingdom; ¹¹University Hospital Southampton, Winchester, United Kingdom; ¹²University hospitals of Leicester, Leicester, United Kingdom; ¹³University of Cambridge, Cambridge, United Kingdom; ¹⁴University of Edinburgh, Edinburgh, United Kingdom

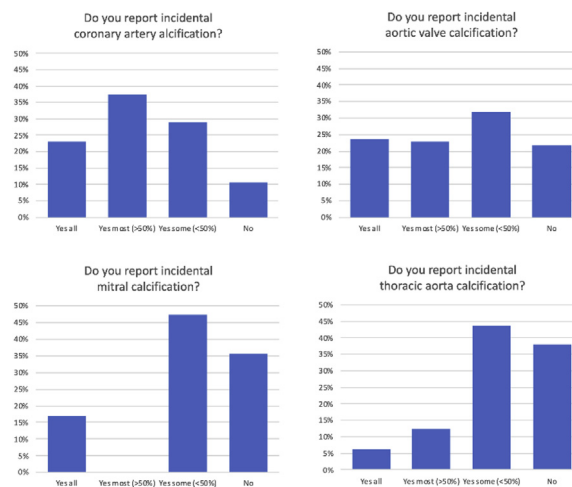
Introduction: On thoracic CT performed for non cardiac indications, coronary artery and cardiac calcification are common incidental findings. However, these findings are frequently not reported. This survey sought the opinions of radiologists in the UK regarding the reporting of incidental calcification.

Methods: UK radiologists were invited to answer questions using an online survey regarding the reporting of coronary, aortic valve, mitral and thoracic aorta calcification on routine non-cardiac/vascular thoracic CT.

Results: The survey was completed by 210 radiologists including 24 (11%) trainees and 186 (89%) consultants. Importantly 30% were not sub-specialists in cardiac, thoracic or vascular imaging. Calcification was not reported by 11% for the coronary arteries, 21% for the aortic valve, 25% for the mitral valve and 38% for the thoracic aorta. Age and indication for imaging were the most frequent factors influencing the reporting of calcification. For coronary calcification a per patient visual assessment was the most frequently used (66%), followed by per vessel visual assessment (14%), semi-quantitative scoring (5%) and Agatston scoring (2%). Management recommendations were only provided by 37% when coronary artery calcification was identified. Echocardiography was recommended by 36% of radiologists when aortic valve calcification was identified and 19% of radiologists when mitral valve calcification was identified.

Conclusions: The reporting of incidental coronary and cardiac calcification vary widely, with a significant number of radiologists not reporting these

important findings.



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COMPARISON IN QUANTITATIVE CORONARY CALCIFIED PLAQUE BURDEN BETWEEN FILTER BACK PROJECTION AND ITERATIVE RECONSTRUCTION ALGORITHM USING SCAN WITH VARIOUS EXPOSURE DOSAGE

S. Mao², D. Li¹, D. Zhao², Y. Gao², F. Flores², H. Bakhsheshi², H. Hosseini², M. Chen², G. Ghaly², S. Pidikiti², A. James², C. Perez², K. Jung², M. Budoff². ¹Emory university, Atlanta, GA, United States; ²Lundquist, Torrance, CA, United States

Introduction: Studies show that the value of coronary artery plaque burden decreases when assessed with CT iterative reconstruction algorithm and varies between various scanner models. We aimed to estimate the difference in quantitative coronary calcified plaque burden between filter back projection (FBP) and iterative reconstruction (IR) images using a latest scanner of 256-detector CT.

Methods: A total of 506 (210 female) subjects who underwent coronary CT scan using a 256- detector scanner (GE Healthcare) were employed. The scan parameters are 120 kVp, electric current product range in 17 to 75 mAs, 280 milliseconds in couch rotation speed, using EKG gated technique. The total effective radiation dose is 0.2 to 0.9 millisieverts. The FBP and IR in 50% were used to reconstruct images in all scans. The Agatston score, volume and peak CTHU of coronary calcified plaque burden was measured. Five groups were derived based on the current product and comparison test was completed between FBP and IR images within groups.

Results: Comparing with FBP algorithm, a significant decrease in Agatston score and plaque burden volume as compared to IR images was noted in all groups ($P < 0.001$). The decrease percent are 5.4, 2.8% in AS, 4.8 and 2.8 in volume in 17 mAs and 25 mAs group respectively. In the group having more than 45 mAs, a similar decrease percent in both parameters (2.2 to 2.4%) was found. The peak CTHU of calcified foci had a decreased trend following increase of electric current product.

Conclusions: The coronary calcium score derived from a CT IR image needs to be calibrated based on the exposure dosage.

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QUANTITATIVE CORONARY CALCIUM BURDEN USING CT SCAN WITH "AS LOW AS REASONABLY ACHIEVABLE" RADIATION DOSE AND MAINTAINING ACCEPTABLE IMAGE QUALITY

S. Mao², D. Li¹, D. Zhao², Y. Gao², F. Flores², H. Bakhsheshi², H. Chharawalla², D. Cornelio², N. Das², Y. Kaur², J. Trad², M. Budoff². ¹Emory University, Atlanta, GA, United States; ²Lundquist, Torrance, CA, United States