INTRODUCTION

Cardiac multidetector CT (MDCT) has evolved into a powerful tool in the clinical assessment of many cardiac conditions. With the new generation of 64 slice scanners and the increasingly powerful post-processing software it will have an ever-increasing role to indicate the presence of coronary artery disease in specific indications for cardiac MDCT include the exclusion of coronary artery disease in specific patient groups (i.e. those with low and intermediate risk of coronary disease) and the evaluation of coronary anatomy (including complex cardiac anomalies) (1). We examined various 64-slice cardiac MDCT images in patients with chest pain and negative exercise treadmill test.

MATERIALS & METHODS

There were 182 patients with chest pain who underwent 64-slice cardiac MDCT during a period of three months. 95 patients (27 women, 68 men; mean age, 51.2 years ± 10.1 [standard deviation]) with negative exercise treadmill test were recruited in this retrospective analysis. All prospectively CT 64-slice Scanner, GE Healthcare were performed with prospective gated axial acquisition. An oral (Atevlon 50mg) ß-blocker was used to lower heart rate. Oral ß-blocker was administered when heart rate was >60 bpm 1 hour before scanning. Average heart rate during the scan was 68 ± 7.3 bpm (range, 44 to 80 bpm). MDCT scans were analyzed for the significant cardiac cause of chest pain. Coronary arteries were assessed in 3 categories; normal, nonobstructiveatheromatosus plaque (<50% luminal narrowing), or obstructive (>50% luminal narrowing) coronary stenosis. Additional cardiac abnormalities were assessed.

RESULTS

64 MDCT coronary angiography showed normal coronary vessels (n = 49), nonobstructive plaque (n = 41), and obstructive coronary disease (n = 4). The presence of a significant stenosis was confirmed with cardiac catheterization in all four cases.

Additional cardiac abnormalities were myocardial bridge (n = 11), anomalous origin of the main pulmonary artery (n = 1), and right ventricular acupuncture needle embolism (n = 1). The presence of a significant stenosis was confirmed with cardiac catheterization in all four cases.

CONCLUSION

64-slice cardiac MDCT scans revealed significant coronary artery narrowing in 4% of patients with a negative exercise treadmill test and showed the various cardiac abnormalities. 64-slice cardiac MDCT can be a potential diagnostic modality in patients with chest pain and a negative exercise treadmill test.

REFERENCES