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# Diagnostic accuracy of coronary angiography with 64-slice MSCT in asymptomatic patients prior to non coronary vascular operations in comparison with conventional angiography - our experiences

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## 1. Purpose

To analyze diagnostic accuracy of 64 slice MSCT coronary angiography in evaluation and detection of obstructive lesions of coronary arteries as a reliable method for preoperative management of patients (pts) with non coronary vascular disease.

## 2. Methods and Materials

From March 2008 until January 2009, we performed ECG - gated, 64 slice MSCT coronary angiography in 87 asymptomatic non coronary pts (mean age 52±15 yrs, 60 of them male) prior to non coronary vascular operations (peripheral arterial occlusive disease, valvular disease, disease of aorta: aneurysms, dissection Stanford A). Premedication with i.v ß blockers was administrated in all with heart rate >70hbm. Patients with arrhythmia and those with severe coronary calcifications were excluded. All pts also underwent conventional angiography for confirmation of the findings.

## 3. Results

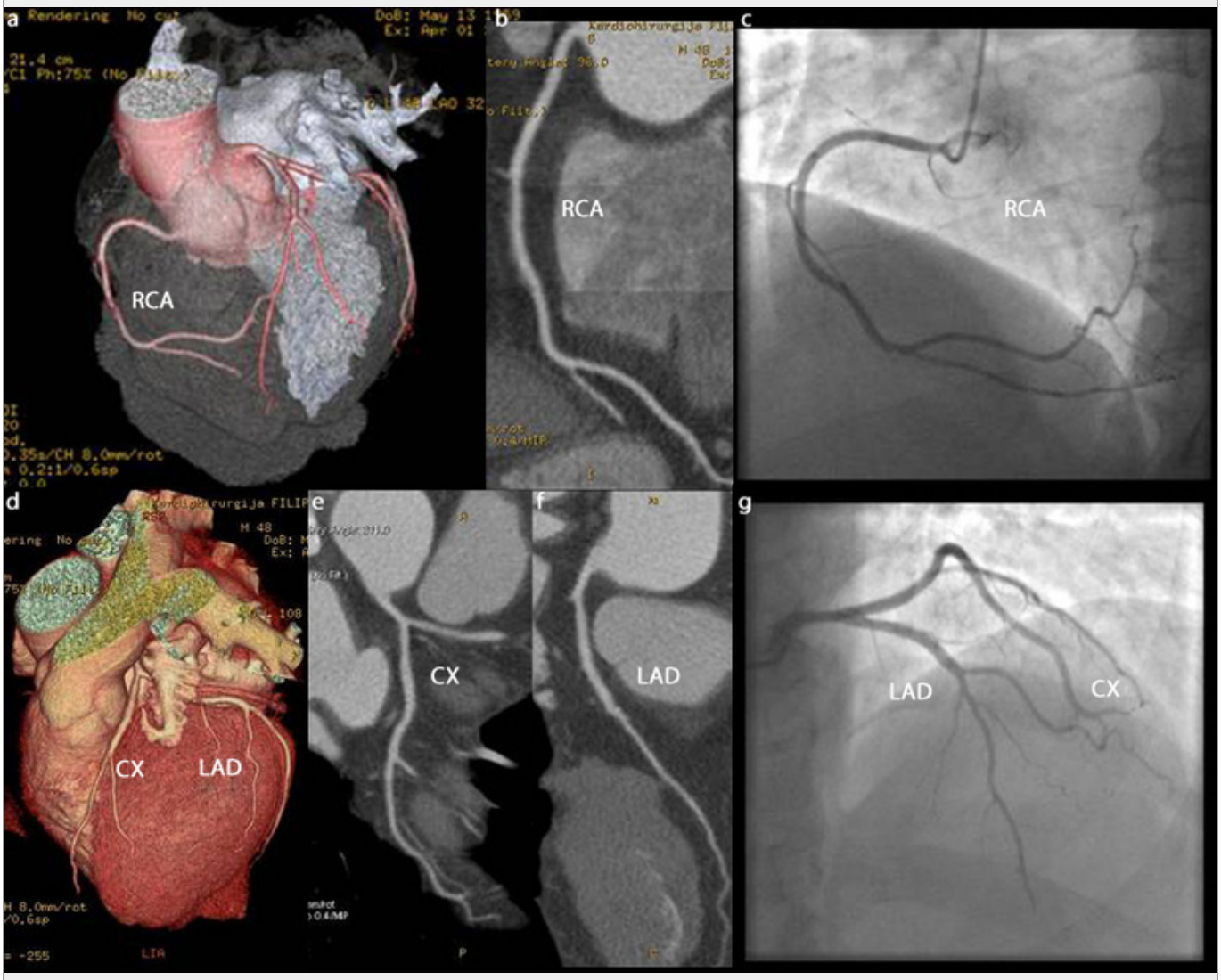
Fifty-six 56 (64%) out of 87 pts were without obstructive coronary lesions (Fig 1), 3 (5%) of them false negative). Thirty- one 31 (36%) out of 87 were with obstructive coronary lesions, 3 (9%) of them false positive. (Fig 2) Out of 28 pts 9 (32%) pts had non significant coronary lesions (Fig 3), 12 (42%) pts underwent PCI/ stenting (Fig 4), because of significant coronary lesions (≥50% luminal narrowing) and 7 (25%) pts underwent operation (CABG) because of multivessel significant disease (Fig 5).

## 4. Conclusion

64 slice MSCT coronary angiography with it's noninvasivity as an attractive advantage over conventional angiography and it's diagnostic accuracy with very high specificity (94 %) and sensitivity (90%) is a reliable method for preoperative management of patients with non coronary vascular disease.

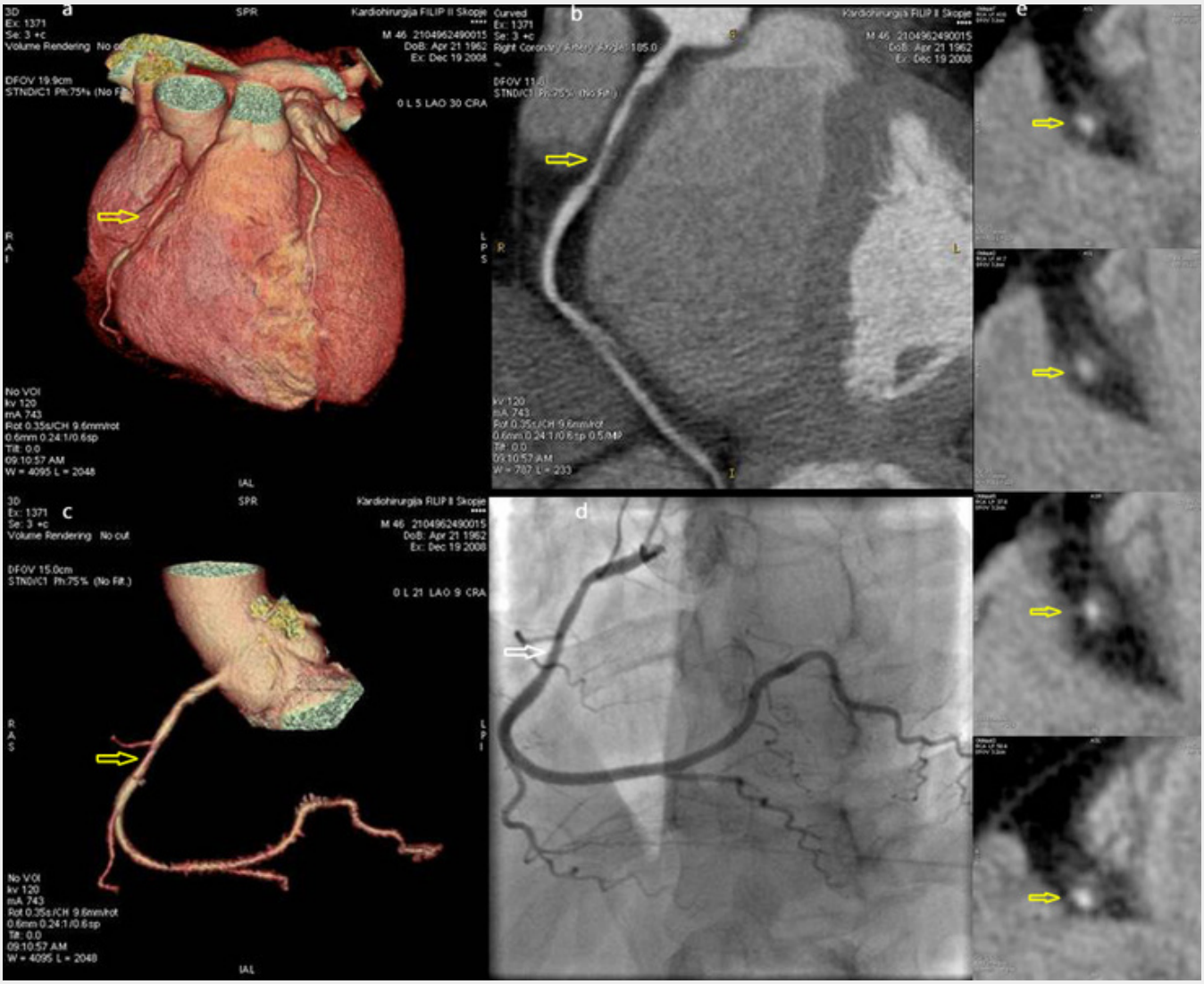
## 5. Mediafiles

**Figure 1**



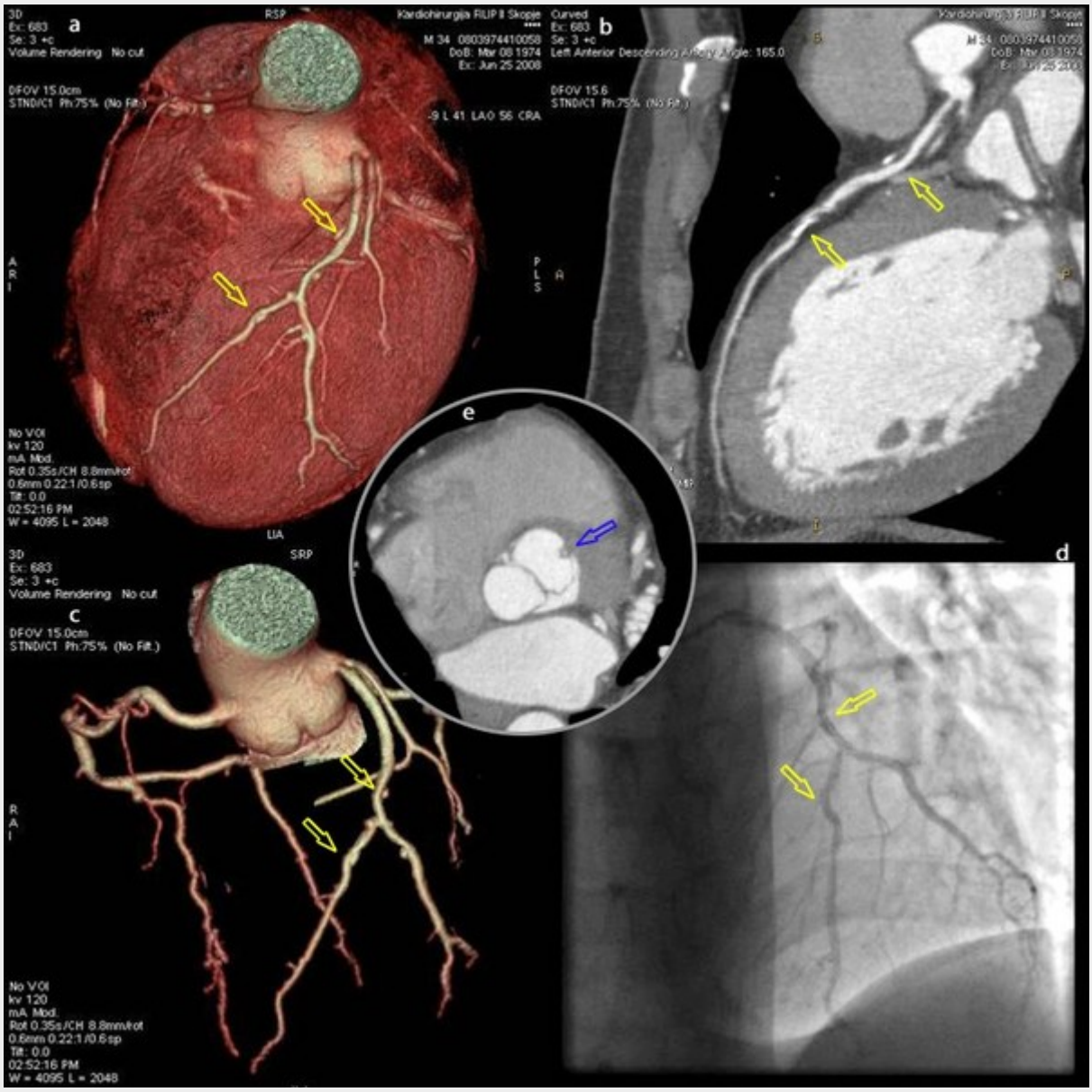

Patient with peripheral arterial occlusive disease (iliac artery). Coronary angiography without obstructive coronary lesions: a,d-64 slice MSCT -3D VRT; b,e,f - 64 slice MSCT –CPR; c,g - conventional coronary angiography

**Figure 2**



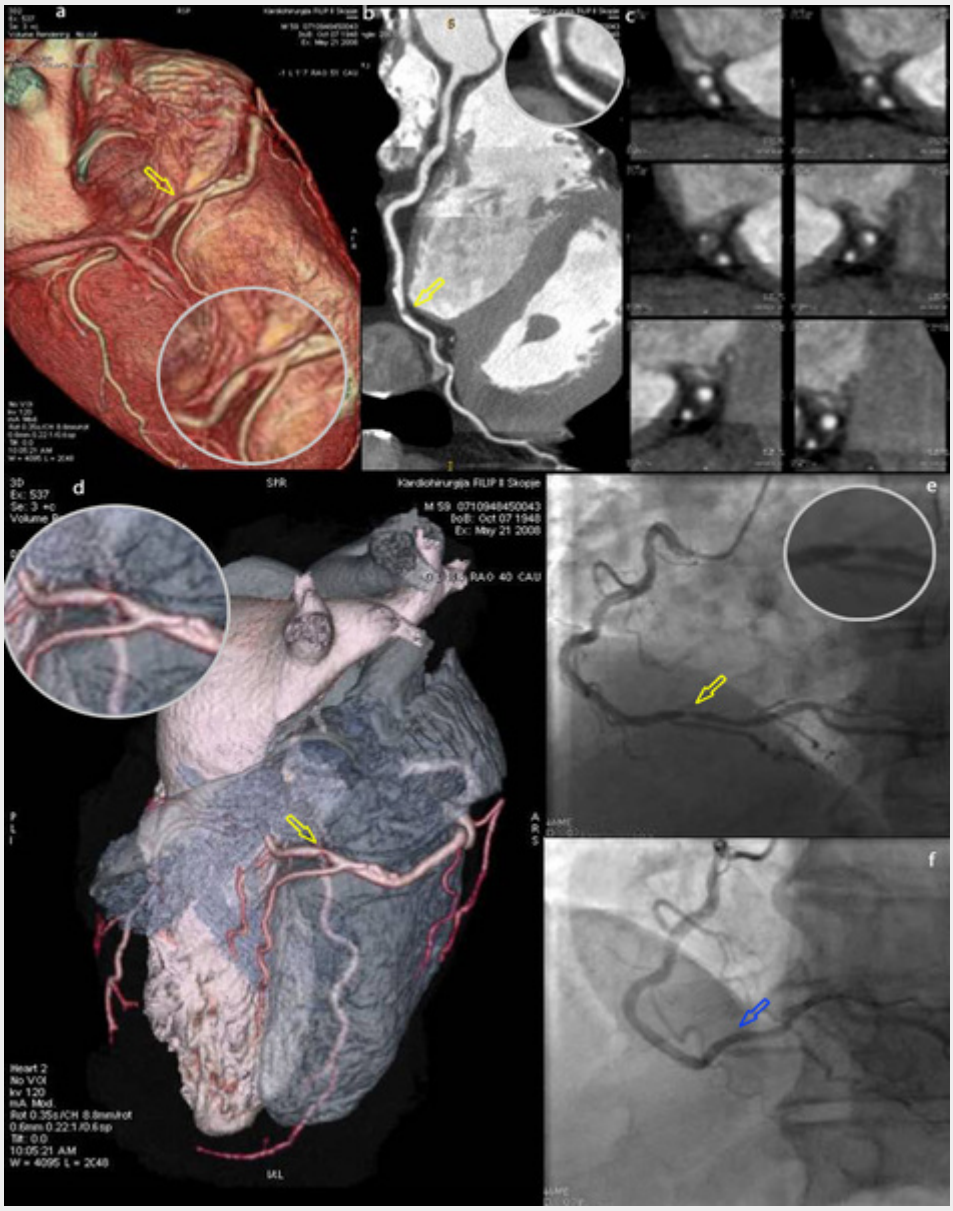

Patient with peripheral arterial occlusive disease (femoral superficial artery). Coronary angiography: RCA-right coronary artery with significant coronary lesion (yellow arrow) a,c -64 slice MSCT -3D VRT; b,e - 64 slice MSCT –CPR; d- conventional angiography - false positive result (white arrow)

**Figure 3**



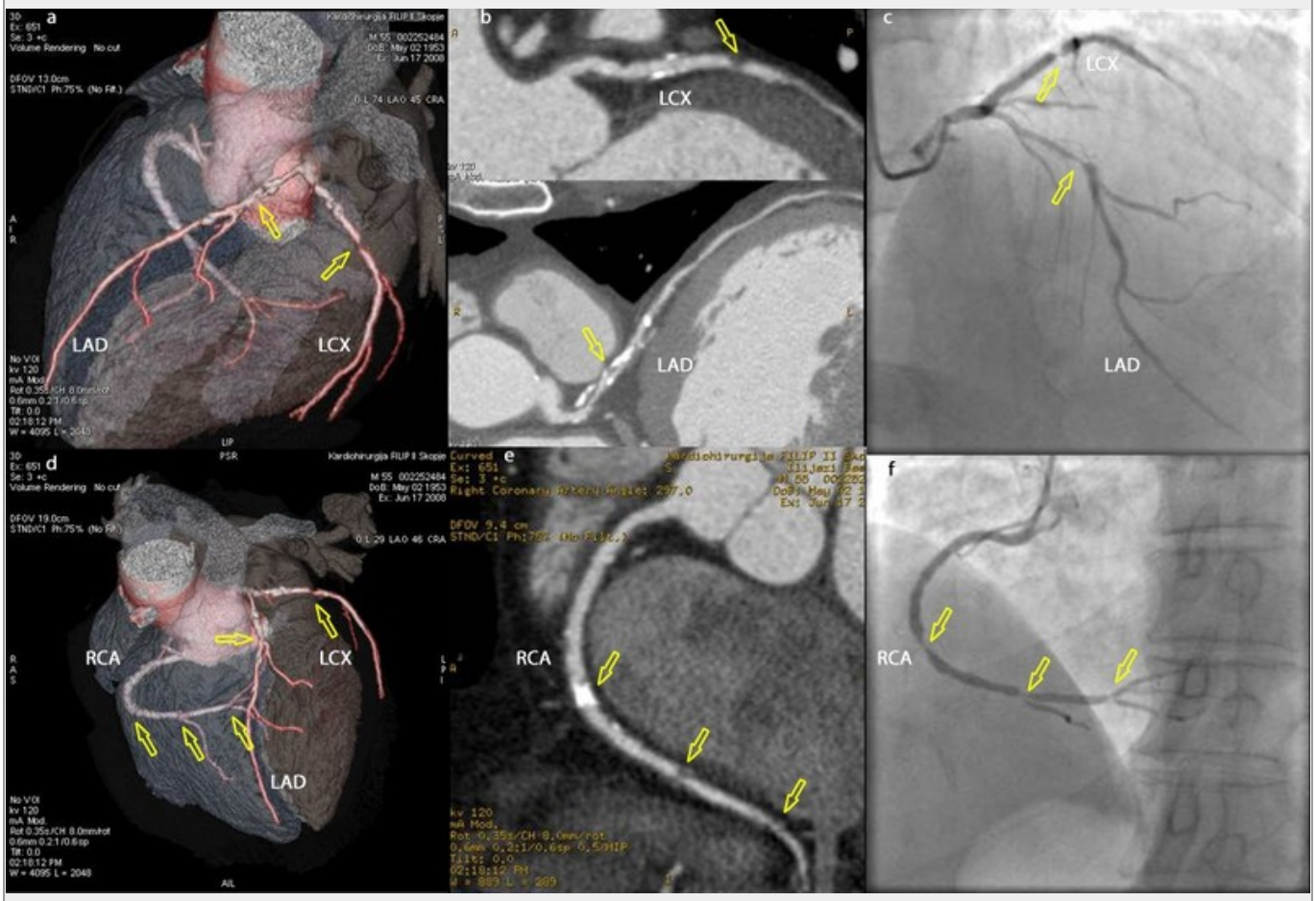

Patient with valvular disease, bicuspid aortic valve. Coronary angiography: LAD, left coronary artery with non significant obstructive coronary lesions (yellow arrow). (a,c -64 slice MSCT -3D VRT; b - 64 slice MSCT –CPR; d- conventional coronary angiography; e - 64 slice MSCT image of bicuspid aortic valve (blue arrow)

**Figure 4**



Patient with peripheral arterial occlusive disease (carotid artery). Coronary angiography: RCA-right coronary artery with significant coronary lesion (yellow arrow) a,d -64 slice MSCT -3D VRT; b,c - 64 slice MSCT –CPR; e - conventional coronary angiography with confirmation of the stenosis; f -conventional coronary angiography (PCI/stenting) (blue arrow)

**Figure 5**




Patient with peripheral arterial occlusive disease (subclavian artery). Coronary angiography: multivessel significant obstructive coronary lesions (arrows) a,d -64 slice MSCT -3D VRT; b,e - 64 slice MSCT –CPR; c,f- conventional coronary angiography; CABG recommended