Scientific Sessions
and
Late-Breaking Clinical Trials
(B)

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Results: The mean arterial calcification score was 1.986 mm³ with a range from 184.3 mm³ to 22,857.4 mm³. No patient had an aortic valve calcium score of 0. The median calcium score was 1215.7 mm³ (718.4-2059.9 mm³). There was no significant difference of the calcium distribution between the leaflets; the mean calcium score of the non-coronary leaflet was 675.3 mm³ and 516.3 mm³, and 645 mm³ for the aortic valve leaflet (p = 0.05). There was also true for the median calcium leaflet scores 514.4 mm³ (258.7-769.6 mm³) vs. 343.6 (164.1-514.3 mm³) vs. 428.0 mm³ (237.9-769.6 mm³), respectively. The outflow tract had a mean calcium score of 509 mm³ with a range from 0 to 932 mm³, while the median score was 177.9 mm³ (37.8-576.7 mm³).

Conclusion: Predictions for TAVI regurgitation and persistence of paravalvular leaks are still not explored. Both, the amount of calcium and its exact location on the aortic valve and outflow tract may be important in determining the development of paravalvular aortic regurgitation and post-procedural outcome after TAVI.

B-0632 14:48
Accuracy and time-efficiency of multi-path curved planar reformations in the evaluation of low-dose CT angiography of the peripheral arteries
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Purpose: CT angiography (CTA) is an accurate modality for the assessment of peripheral arterial occlusive disease (PAOD), however, time-consuming rendering of axial images is necessary due to the low-contrast availability of reformations such as maximum intensity projections (MIP). This study aimed to evaluate the accuracy and time-efficiency of multi-path curved planar reformations (MP-CPR) for the detection of significant stenoses (>70%) in comparison to axial images, using digital subtraction angiography (DSA) as reference.

Methods and Materials: Forty consecutive patients with PAOD referred to CTA prior to endovascular treatment were prospectively included. A dual-source CT scanner with 80 kV tube voltage, tube current modulation (120-150 ref. mAs) and iterative image reconstruction was used. 20 arterial segments were defined in each leg for each segment, the degree of stenosis was assessed on MP-CPR and axial images independent of each other and compared to DSA.

Results: Regarding detection of significant stenoses, MP-CPR yielded a lower sensitivity (84% vs. 88%, p = 0.01) and accuracy (93% vs. 92%, p = 0.73) but higher specificity (94% vs. 93%, p = 0.04) than axial images. The largest sensitivity discrepancy between MP-CPR and axial images was in the iliac segments (83% vs. 100%). The evaluation of MP-CPR was significantly faster than that of axial images (mean per patient: 4.41 min vs. 6.57 min, p < 0.01).

Conclusion: While providing similar accuracy, MP-CPR evaluation is significantly faster than axial images. However, for stenosis detection in the iliac segments, additional review of axial images is still recommended.

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B-0633 14:56
3D DCE-MRA in evaluation of blood-flow in diaphragmatic foot
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Purpose: To identify and evaluate pedaval vascularisation in diabetic patients using contrast MR-angiography.

Methods and Materials: 31 diabetic foot of 31 patients (14 male (45.2%), 17 female (54.8%); mean age 54.65±15.1) underwent 3D DCE-MRA (Gadovist, 0.1 mmol/kg body mass I.V T). Imaging analysis included blood-flow's speed, vascular architecture's condition and character of contrast's accumulation. Osteomyelitis was verified according to operations in 15 cases (48%).

Results: All patients were divided in 3 groups: 1 - ischaemic (n=5, 16.1%), 2 - neuroischaemic (n=12, 38.7%), 3 - neuroischaemic (n=14, 45.2%) forms of DF. First-pass MRA detected significantly (p = 0.03) delay in contrast's arrival in I group by comparison with II group. MR-angiography showed absence of pedaval vessels in I group: arcus plantarius n=3 (60.0%), a digitales n=3 (100%) and in III group: arcus plantaris n=2 (14.0%), a digitales n=5 (35.7%). There was uniform (group III 25%, 40.0%, increase (group II 5%, 100%); group I 10%, 53.3%; group II 10%, 100%). This Gadovist's distribution in soft tissues, it wasn't significant difference in long-term contrast extravascular accumulation in all group of diabetic foot, Osteomyelitis associated with diffuse enhanced contrast accumulation in all cases (n=15, 100%).