Prosthesis-annular length and QRS duration before and immediately after TAVI implantation were compared to the need of permanent pacing.

Results: The TAVI procedure was successfully performed in all and permanent pace maker implantation was required in 7 patients (20%) because of a complete AV block occurring during the 3 days after TAVI procedure. Patients requiring a permanent pacing had greater prosthesis-annular length (11±4 mm vs. 9±4 mm, p=0.03) and QRS duration after implantation (137±24 ms vs. 161±3 ms, p=0.006), while no difference was observed for baseline QRS duration. QRS enlargement correlated with prosthesis annular length (r=0.4, p=0.01). Interestingly, all patients with QRS enlargement >48 ms (n=20) were free of complete AV block, while permanent pacing was required in 54% (7/13) of patients with a QRS enlargement >48 ms (n=15).

Conclusions: In patients with a limited changes in QRS duration (<48 ms) after TAVI procedure, the risk of complete block seems limited, while QRS enlargement >48 ms appears strongly associated to the need of permanent pacing.

197

Percutaneous mitral commissurotomy in patients aged 50 years and more
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Introduction: The studies concerning the percutaneous mitral commissurotomy (PMC) in the elderly patients are rare.

Objectives: The purpose of this work is the study of early and long-term results of the PMC in patients aged more than 50-years and their comparison with the results obtained in the younger patients.

Materials and methods: retrospective study of 170 patients, hospitalized in the cardiology department between January 1994 and January 2008 having PMC by balloon inoué with a clinical and echocardiographic follow-up of more than 10 years. We defined the patients >=50 years old (group 1) and the patients aged less than 50-years (group 2).

Results: - 45 patients were >= 50 years old (17.05%). The mean age was 56,41%; 62,1% were in atrial fibrillation (AF) and 37,9% were in sinus rhythm (SR). The WILKINS score showed that 20,7% had a score <8,72, 4% between 9-11 and 6,9% a score >12. After PMC the mean mitral area was passed from 1,07±0,2 cm² to 2,03±0,3 cm² (p<0,001), the transmirtal gradient was passed from 14,88±5,14 mmhg to 3,99±2,26 (p<0,001) and the mean pulmonary artery pressure was passed from 35,66 ±9,97 mmhg to 24,3±5,48 mmhg (p=0,01). The estimation of Kaplan-Meier showed that the absence of restenosis was respectively 80,8%/73,1% 65,4% and 61,5% in patients aged >50% were treated by PMC by balloon inoué with a clinical and echocardiographic follow-up of more than 10 years. We defined the patients >=50 years old (group 1) and the patients aged less than 50-years (group 2).

Results: - 45 patients were >= 50 years old (17.05%). The mean age was 56,41%; 62,1% were in atrial fibrillation (AF) and 37,9% were in sinus rhythm (SR). The WILKINS score showed that 20,7% had a score <8,72, 4% between 9-11 and 6,9% a score >12. After PMC the mean mitral area was passed from 1,07±0,2 cm² to 2,03±0,3 cm² (p<0,001), the transmirtal gradient was passed from 14,88±5,14 mmhg to 3,99±2,26 (p<0,001) and the mean pulmonary artery pressure was passed from 35,66 ±9,97 mmhg to 24,3±5,48 mmhg (p=0,01). The estimation of Kaplan-Meier showed that the absence of restenosis was respectively 80,8%/73,1% 65,4% and 61,5% in 3,5,7 and 10 years. – the Comparison between both groups of the young and the elderly patients showed that in the (group 2) the majority of patients were in SR (91,7%) however in the (group) the majority were in AF (61,7%). In our elderly patients showed that in the (group 2) the majority of patients were in SR (91,7%) however in the (group) the majority were in AF (61,7%).

Conclusions: The radiation dose related to TAVI does not impact clearly on outcome. The association between peak troponin after procedure and prognosis suggests that an alternative strategy to better protect myocardial function should be investigated.

199

Evaluation of radiation dose during transcatheter aortic valve implantation: Comparison with coronary angiograms and percutaneous coronary interventions
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Background: Transcatheter aortic valve implantation (TAVI) is a growing cardiac intervention using ionising radiation with deterministic and stochastic effects for the patient as well as for the medical heart team. Dose area product (DAP) evaluates radiation dose and is easily found on the X-ray tube program at the end of the procedure. We aimed to measure the dose of radiation emitted during TAVI, and to compare with coronary angiogram (CA) or percutaneous coronary interventions (PCI).

Methods: We perform TAVI, CA and PCI in the same cath lab. We compare DAP as noted at the end of each procedure for these 3 types of interventions over the same period (September 2008 to June 2010). For TAVI, we also analysed the role of technical (femoral vs apical approach) and patient-related features (weight, body surface area).

Results: During the study period, we consecutively included 37 cases of TAVI, 1230 CA, 89 isolated PCI and 807 CA with ad hoc PCI. DAP was significantly higher in TAVI than in CA alone (83.3 vs 44.9 Gy.cm², p<0.01), but no significant difference was observed between TAVI and PCI and CA/PCI (respectively 70.1 and 90 Gy.cm²). Among TAVI, there was a significant difference between transfemoral and transapical approach (80 vs 86.3 Gy.cm² respectively, p<0.05). DAP was also influenced by patient’s weight (p <0.01, r²=0.29) and body surface area (p=0.01, r²=0.32).

Conclusion: The radiation dose related to TAVI is twice that of coronary angiogram, and similar to that of coronary angiogram with ad hoc PCI.