

valuable alternative in everyday practice. However, it is surprisingly unclear which IC strategy allows the achievement of FFR values comparable to IV adenosine.

Objectives: This study sought to compare increasing doses of intracoronary (IC) adenosine versus intravenous (IV) adenosine for fractional flow reserve (FFR) assessment.

Background: Maximal hyperemia is the critical prerequisite for FFR assessment. Despite IV adenosine currently representing the recommended approach, IC administration of adenosine constitutes a valuable alternative in everyday practice. However, it is surprisingly unclear which IC strategy allows the achievement of FFR values comparable to IV adenosine.

Methods: Thirty intermediate coronary stenoses undergoing FFR measurement were prospectively and consecutively enrolled. Hyperemia was sequentially induced by bolus of IC adenosine (AND 150 μ g) and by IV adenosine infusion (IVADN) (140 μ g/kg/min). FFR values, symptoms, and development of atrioventricular block were recorded.

Results: 150 μ g dose of IC adenosine were well tolerated and associated with fewer symptoms than IV adenosine. Intracoronary adenosine doses induced a significant decrease of FFR compared with baseline levels ($p < 0.00$). Among the 6 patients with FFR values >0.80 with IVADN, 4 were correctly identified also by 150 μ g bolus IC adenosine.

Conclusions: Intracoronary adenosine, at doses higher than currently suggested, allows obtaining FFR values similar to IV adenosine. Intravenous adenosine, which remains the gold standard, might thus be reserved for those lesions with equivocal FFR values.

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Efficacy and safety of transradial percutaneous coronary intervention using sheathless guide catheter technique

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Aims: To evaluate the safety and efficacy of transradial (TR) percutaneous coronary intervention (PCI) using sheathless hydrophilic-coated guiding catheter (GC) technique compared to the standard TR PCI via 6F GC.

Methods and results: 67 patients (93 lesions) who underwent TR PCI using sheathless GC technique (6.5 or 7.5 Fr GC) or standard TR PCI (6Fr GC) were included. They were divided into two groups; sheathless TR PCI group (27 patients with 28 lesions) and standard TR PCI group (49 patients with 65 lesions). Baseline clinical, lesion and procedural characteristics were recorded. Radial artery was assessed clinically and using Doppler ultrasound before discharge and after one month. All patients were elective or ad-hoc PCI. The procedure success rate was 100% in both groups. The Sheathless TR PCI patients were older and male sex than standard TR PCI group. ACC/AHA lesion type B2 and C and bifurcation lesions were significantly high at Sheathless TR PCI group. In addition, using IVUS and performing final kissing balloon for bifurcation lesion were significantly common in sheathless TR PCI patients. One patient required rotational atherectomy and another one underwent hugging balloon technique in sheathless TR PCI group but non in the other group. There were no procedure complications or access-site complications in both groups. One patient in sheathless TR PCI group and another in standard TR PCI group (3.7% and 2.1% respectively) experienced

radial artery occlusion after the procedure at one-month follow-up without clinical sequelae.

Conclusions: TR PCI via standard and sheathless hydrophilic-coated GC techniques are effective and safe with high rate of procedural success and low rate of asymptomatic radial artery occlusion. Moreover, TR PCI using sheathless GC technique has the advantage of performing complex intervention requiring large bore catheters that can not be performed via standard TR PCI using 6F GC.

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Emergent balloon mitral valvotomy in pregnant women presenting with refractory pulmonary edema

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Background: Mitral stenosis is the most common valvular heart lesion found in pregnancy. When severe, it leads to significant risk of mortality for both mother and fetus, since the hemodynamic adaptations to pregnancy are badly tolerated. Many pregnant women with mitral stenosis present in a critically ill condition. The role of balloon mitral valvotomy (BMV) in such patients is ill-defined.

Objectives: We sought to evaluate the feasibility, efficacy and safety of emergent BMV in pregnant patients with refractory pulmonary edema and to determine maternal and fetal outcome.

Methods: Of 88 patients undergoing BMV during pregnancy from January 1990 to December 2011 in Cardiology A Department of Monastir Hospital, 28 women were in New York Heart Association functional class IV and underwent emergent BMV. During the procedure, radiation exposure was minimized by means of total abdominal and pelvic shielding.

Results: The mothers' mean age at the time of BMV was 28.86 ± 5.7 (range 19–43) years, and the gestation period was 30 ± 5.1 (range 20–39) weeks. Ten patients were primiparas. Mitral valve (MV) was assessed using the Wilkins score which averaged 7.4 ± 1.8 (range 4–14). Fluoroscopy time was 7.8 ± 1.9 min.

The BMV procedure was successful in 25 (89.3%) patients with a dramatic improvement in patient symptoms.

The mitral valve area increased from 0.8 ± 0.2 cm² to 2.2 ± 0.42 cm² ($p < 0.0001$). The mitral valve pressure gradient decreased from 22.2 ± 9.3 to 5.7 ± 4 mmHg ($p < 0.0001$). The left atrial pressure decreased from 29.4 ± 9.3 to 15.4 ± 7.3 mmHg ($p < 0.0001$). The pulmonary artery pressure decreased from 58.8 ± 21.1 to 37.2 ± 14.3 mmHg ($p < 0.0001$).

One patient developed severe mitral regurgitation and required urgent mitral valve replacement. There was no maternal mortality or significant foetal morbidity.

Pregnancy was uneventful in all patients, all babies were born at full term by spontaneous vaginal delivery in 24 cases (85.7%) and by cesarian section for obstetrical reasons in 4 (14.3%), with no obvious malformations (4 of them were twin babies). None of the babies needed intensive care monitoring. The average Apgar scores at 1 min were 8.6 ± 1 . The mean birth weight was 3.1 Kilograms (Kg) ranged from 1.9 to 3.8 kg.

Conclusion: During pregnancy, emergent BMV is safe and feasible in patients with symptomatic mitral stenosis and severe pulmonary edema. There is marked symptomatic relief, along with excellent maternal and fetal outcomes.

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