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The prognostic value of Heart Rate Recovery and Chronotropic Index in patients with ST- elevation myocardial infarction and betablocker therapy

Monica Dan, Dana Constantinescu, Alexandra Diaconeasa, Maria Dorobantu
Emergency Hospital Bucharest, Romania

Background: A HRR < 12 beats/min at 1 min and < 22 b/min at 2 min and a HRCI < 70% are two strong predictors of mortality of any causes. These parameters were not yet studied in patients (pts) recovering from STEMI under BB.

Objective: To assess the HRR and HRCI in pts. with STEMI receiving BBs.

Methods: In 102 patients with STEMI (age 32-83 years, ejection fraction (EF) > 40% BB therapy), submaximal exercise ramp treadmill test (ETT) at 9-12th days, and maximal ETTS at 21-30 day, 1 and 3 years were performed. The target maximal parameter was the number of METs required according to Buebmann Nomogram. The HRR and HRCI and their correlation with Duke Treadmill Score (DTS), and clinical events during 5 years after STEMI (mortality, heart failure=HF, reinfarctazation,) were assessed.

Results: 41.1% pts. had pathological HRR values; 2 from them had a: low risk DTS, 29 had a moderate and high-risk DTS, and from all pts with low risk DTS (45), those with impaired HRR developed clinical events after 5yrs (OR=6.34). All pts with Borg scala> 15 had impaired HRR. Ten pts with low HRR at 2 min had HF NYHA class II-III after 5 years. The re-infarction occurred in 2 pts. (1 pt with low HRR 94.1%) had an HRCI < 70%, but 93 had EF>54%, with no association with the HF.No relation between impaired HRR and HRCI was found. The Borg corrected HRCI seemed to be more sensitive with the occurrence of HF.

Conclusions: 1. The BB therapy strongly influences the HRCI and No association with HF was noticed suggesting that under BBs, a lower cut-off HRCI value should be considered. The Borg corrected HRCI could be an alternative. 2. BB in STEMI does not seem to influence the HRR index. 3. An impaired HRR value seems to be a good criteria in prediction of the development of heart failure in STEMI pts and an independent predictor of cardiac events in a 5 yrs follow-up.

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Assessment of carotid artery stenosis before coronary artery bypass surgery.

Jean-Christophe Cornily (1), David Le Saux (1), Ulric Vinsonneau (2), Florent Le Ven (1), Jacques Boschat (1), Martine Gialrad (1), Jean-Jacques Blanc (1)
(1) CHRU Brest – Hôpital Cavale Blanche, Département de Cardiologie, Brest Cedex, France – (2) HIA Clermont Tonnerre, Brest, France

Background: Extracranial internal carotid artery stenosis is a risk factor for perioperative stroke in patients undergoing coronary artery bypass (CAB) surgery. Although both selective and nonselective methods of preoperative carotid screening have been advocated, it remains unclear if this screening is clinically relevant.

Methods: Files of patients consecutively undergoing CAB were reviewed. Patients were retrospectively stratified into high- or low-risk groups according to risk factors for significant carotid stenosis and perioperative stroke identified in the literature: presence of peripheral vascular disease, carotid bruit, diabetes mellitus, age over 70 years and/or previous history of cerebrovascular disease. Prevalence of carotid stenosis detected by ultrasonography, surgical management, and perioperative stroke rates were determined in each group.

Results: 205 consecutive patients underwent preoperative carotid screening. The prevalence of significant carotid stenosis detected by ultrasonography was 5.8%. Univariate analysis confirmed that peripheral vascular disease (p=0.005), carotid bruit (p=0.003) and diabetes mellitus (p=0.05) were significant risk factors for stenosis. Carotid stenosis was a risk factor for stroke (p=0.03). Prevalence of carotid stenosis was higher in high-risk group than in low-risk group (9.1% vs 1.2%; p< 0.05). All concomitant or staged carotid endarterectomies/CAB (5/205) and all patients who suffered perioperative strokes (5/205) were in the high-risk group (p=0.01).

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Detection of the coronary restenosis after coronary angioplasty by myocardial perfusion imaging (spect), a prospective study

Nadia Diab, Mehdi Haffaf
Hôpital Central de l’Armée, Cardiologie, Alger, Algérie

The possible mechanisms underlying myocardial infarction with normal coronary arteries are normal or nearly normal. It affects primarily younger persons.

We report in this prospective study, the contribution of the myocardial perfusion imaging (SPECT) in the detection of the coronary restenosis after a planed ATC.

It is about 126 patients, 115 men whose average age is 57.42 ± 8.53 years presenting a coronary monotrunmale lesion. 24 % of the patients are diabetic and 63 % of the men are smoking.

On the coronaryographic side, we undertook a dilatation on 129 lesion. Sixty seven percent of the lesion sits on the anterior interventriculaire (IVA), 21 % on right coronary and 12 % on circumflex. Sixty two percent lesion are of type ≥ B2. In 19 % of the cases, the diameter is less than 2.5 mm. Its length is > 15 mm in 56 % of the cases. The used stents is in naked metal.

The rate of restenose angiographique was estimated at 12 %. The performance of the SPECT myocardial imaging correlated at the coronaryographic allowed to detect the restenosis with a 88 % sensibility, a 98 % specificity, a positive predictive value and negative predictive value respectively of 88 % and 98 %.

The TSM is a good mean for the diagnosis of the restenosis after an ATC.

068

Coronary spasm : a rare cause of myocardial infarction

Wejdene Ouechtati
Hospital Charles Nicolle Tunis, Cardiologie, Tunis, Tunisie

Introduction: Acute myocardial infarction may also occur when the coronary arteries are normal or nearly normal. It affects primarily younger persons. The possible mechanisms underlying myocardial infarction with normal coronary arteries coronary vasospasm, thrombosis, embolization or minimal atherosclerosis.

Observation: A 36-year-old lacting women was admitted to our center with constrective chest pain lasting for more than 30 minutes. She was a passive smoker and had no other risk factors for CAD, no prior history of chest pain and the family history was negative. Cardiovascular examination revealed no abnormal heart sound, gallop or murmur. The initial electrocardiogram revealed sinus rhythm with negative T waves in anterior leads. In 19 % of the cases, the diameter is less than 2.5 mm. Its length is > 15 mm in 56 % of the cases. The used stents is in naked metal.

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The TSM is a good mean for the diagnosis of the restenosis after an ATC.

Conclusion: In our cohort, selective screening of patients with either an age over 70, a carotid bruit, a history of cerebrovascular disease, a diabete mellitutus or a peripheral vascular disease would have reduced the screening load by 40% with trivial impact on surgical management or neurologic outcomes.

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Final kissing with non compliant balloons improves immediate results in bifurcation angioplasty

Thomas Hovasse (1), A Ziani (2), Srinivas Mowa (1), N Dumonteil (2), Yves Louvard (1), Neus Salvatella (1), M Bouzidi (2), Marie-Claude Morice (1), Didier Carrié (3), Thierry Lefèvre (1)
1 Institut Hospitalier Jacques Cartier, Institut Cardiovasculaire Paris Sud, Massy, France – 2 Hôpital Rangueil, Toulouse, France – 3 Centre Hospitalier Universitaire Rangueil, Toulouse, France

Background: Provisional side-branch T stenting (PTS) has emerged as a gold standard in the treatment of bifurcation lesions. Final kissing balloon inflation (Kiss) allows optimisation of main branch (MB) stent deployment and SB ostium scaffolding with the MB stent. By improving proximal MB stent deployment and avoiding overset of the SB, non compliant balloons (NC) may improve these results.

Objectives and design: To assess in a pilot study, the angiographic results and clinical outcome after bifurcation lesion stenting using NC balloons (Hiryu, Terumo) for Kiss. The default strategy was systematic use of 2 wires in 6 Fr guiding catheters, no SB predilatation, MB stenting using Sirolimus, Enderlinum or Paclitaxel drug elutating stents followed by provisional SB stenting using 6 Fr. Pts with Medina 0.0,1 lesions, in-stent restenosis or left main disease were excluded.

Results: 100 bifurcation lesions were treated in 98 Pts. They were 67±11 y-o, 78 % male, 22% diabetics. Indication for PCI was silent ischemia in 23%, stable angina 47% and acute coronary syndrome 30%. Transradial approach was used in 87% of cases. Lesions were mainly located in LAD-diagonal bifurcation (50%). Reference MB diameter was 3.18±0.53 mm and SB 2.28±0.40 mm. MB lesion length was 16.3±6.6 mm and SB 2.34±2.18 mm. The MB was predilated in 49% of cases and SB in 0%. MB stent length was 22.7±6.9 mm and diameter 3.10±0.36 mm. Kiss was performed in all cases but in 3 SB dilatation through the MB stent with a small balloon was needed before Kiss. Optimal SB scaffolding by the MB stent was observed by “stent boost” in 89% of cases. In the remaining, SB dissection or residual lesion > 70% was observed and a SB stent was needed in 7 cases (7%). In hospital outcome was uneventful.

Conclusion: Treatment of bifurcation lesions with PTS approach using NC balloons is feasible with excellent immediate results and a low need for SB stenting. Six-month clinical outcome will be presented at the meeting.

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A comparison of the success rates of transradial and transfemoral approaches for percutaneous coronary intervention of chronic total occlusions

Anouska Moynagh (1), Hakim Benamer (1), Yves Louvard (1), Marie-Claude Morice (1), Philippe Garot (1), Thomas Hovasse (1), Thierry Unterseh (2), Bernard Chevalier (1), Oscar Tavolari (3), Thierry Lefèvre (1)
1 Institut Hospitalier Jacques Cartier, Institut Cardiovasculaire Paris Sud, Massy, France – 2 Hôpital Privé Claude Galien, Institut Cardiovasculaire Paris Sud, Quincy, France – 3 Institut cardiovasculaire Paris sud, Quincy, France

Purpose: Chronic total occlusions (CTOs) are found in approximately 30% of Pts with coronary artery disease and represent the most difficult group for treatment by percutaneous coronary intervention (PCI) with a lower angiographic success rate. Transradial PCI is safe and effective, though the efficacy of this approach in CTOs has not been well studied.

Methods: All Pts treated with PCI for CTOs between Jan 2004 and Dec 2009 were retrospectively identified from a dedicated database. We compared the success rates via the transradial (TRA) and transfemoral approach (TFA) with attention to the lesion characteristics and techniques applied.