Conclusion.– Environ la moitié des patients sont non observants à l’AP après la RC et n’atteignent pas les niveaux cibles recommandés par les médecins. Les deux premiers mois suivant la sortie de la RC semblent être de la plus haute importance pour le maintien des modifications des habitudes de vie. D’autres études menant de manière précise la diminution de l’AP pourraient contribuer à clarifier les meilleures options de suivi.

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CO42-006-f
Apport de la réadaptation cardiovasculaire dans les suites d’une angioplastie transcutanée
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Mots clés : RÉadaptation cardiaque ; Angioplastie ; Pie de VO2 ; Facteurs de risque cardiovasculaires ; Qualité de vie ; Réentraînement à l’effort
Objectif.– Déterminer l’apport d’un programme de réadaptation cardiaque dans les suites d’une angioplastie transcutanée sur les facteurs de risque (FDR) cardiovasculaires, la capacité aérobie, le profil psychologique et la qualité de vie.
Patients et méthodes.– Étude prospective incluant 68 patients coronariens après angioplastie transcutanée réalisée en post-infarctus du myocarde (IDM). Ces patients étaient randomisés en groupe témoin (GC = 38) et groupe réadapté (GR = 30).
Une évaluation comportant une épreuve d’effort, un test de marche de 6 minutes, une cholestérolémie, une impédancemétrie, une échelle SF36 et un questionnaire HAD était réalisée au début, à 8 semaines et à 2 ans.
Résultats.– Après deux mois, le GR a amélioré ses paramètres cardiorespiratoires notamment le pic de VO2 (18 % ; p < 0,001), ce gain a été maintenu au bout de 2 ans. Une amélioration des facteurs de risque cardiovasculaires a été retrouvée uniquement dans le GR avec une augmentation du HDL cholestérol (p = 0,04). L’évaluation après 2 ans a montré que 88 % des fumeurs ont abandonné le tabac dans le GR (< 0,001) alors que ce chiffre n’a atteint que 24 % dans le GC (NS). Une amélioration de la qualité de vie était notée seulement dans le GR (p = 0,001). Les 2 groupes avaient une amélioration significative de l’état psychologique. Durant le suivi, le GR avait significativement moins d’hospitalisations pour événements cardiovasculaires que le GC (20 % versus 44 % ; p < 0,001).
Discussion.– La pose du stent ne doit pas retarder la réadaptation cardiaque qui n’augmente pas le risque de resténose intrastent. Ce programme de réadaptation cardiaque après la pose d’un stent est primordial dans la prise en charge des syndromes coronariens aigus (Classe I Grade A).
Il a un effet bénéfique sur la capacité aérobie, les FDR cardiovasculaires et la qualité de vie.
Pour en savoir plus

English version

CO42-002-e
Improved aerobic capacity and reduction of sympathetic hyperactivity after electromostimulation at home in advanced chronic heart failure - EMSICA Study
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Keywords: Advanced chronic heart failure; Electromostimulation; Vegetative system
Objectives.– In advanced heart failure (AHF), peripheral muscle impairment is often dominant and is largely responsible for limiting the exercise of patients [1]. Moreover, bed rest induced by compensation episodes aggravates muscular and makes it difficult to carry out programs of regular physical training. The electromostimulation (EMS) of the lower limbs has proven its effectiveness in this indication, but rarely at home against placebo in the ICA [2]. The objective was to test the feasibility and effectiveness of an EMS program at home in AHF.
Method.– Twenty-six patients (age: 57.5 ± 9 years, LVEF: 28.7 ± 8%, NYHA 3: 25, NYHA 4: 1) were randomized either in the treated group (EMS 1 hour daily for 6 weeks) or the placebo group (cutaneous electrical stimulation not resulting in muscle contraction). Patients were evaluated before and after the stimulus program.
Results.– At the end of the program, there is a significant improvement in aerobic capacity in the treated group compared to placebo (peak VO2: 11.7 ± 0.7 to 13.6 ± 0.7 ml/kg/min vs. 10 ± 0.7 to 10.9 ± 1.2 ml/kg/min walking test on 6’; 326–446 m vs. 262–291 m) compared to placebo. The sympathetic activity measured by Muscle Sympathetic Nerve Activity (MSNA) is significantly reduced in the treated group (67.0 ± 7 to 60.2 ± 8 burst/min, P < 0.05) whereas it is unchanged in the placebo group (70.2 ± 13 to 73.8 ± 16 burst/min, P > 0.05).
Conclusion.– This study confirms the effectiveness of EMS lower limb performed at home in advanced heart failure. This requires in particular a decrease in sympathetic hyperactivity.
References
CO42-003-e

**Telephone support oriented by accelerometric measures enhances adherence to physical activity recommendations in non-compliant patients after cardiac rehabilitation program**

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**Keywords:** Adherence; Non-compliant; Accelerometers; Phone calls; Physical activity; Cardiac rehabilitation

**Objectives.**– To assess the efficacy of a strategy on the adherence to physical activity (PA) recommendations in cardiac patients not achieving PA recommendations.

**Methods.**– Twenty-nine non-compliant cardiac patients (weekly moderate-intensity PA < 150 min) who benefited from a cardiac rehabilitation program (CRP) were randomized in intervention group (IG, n = 19) or in control group (CG, n = 10). The IG wore an accelerometer during 8 weeks to assess the active energy expenditure (EE, in Kcal) and the time spent in light, moderate or intense levels (min/week). Every 15 days, feedback and support were provided by telephone. The CG wore the accelerometer only during 8th week of the intervention.

**Results.**– In the IG, weekly time spent at moderate-intensity PA increased from 95.6 ± 80.7 to 137.2 ± 87.5 min between the 1st and 8th week (P = 0.004), with 53.6% of the sample achieving the targeted amount of moderate-intensity PA. During the 8th week, the EE averaged 543.7 ± 144.1 Kcal and 266.7 ± 107.4 Kcal in the IG and CG, respectively (P = 0.004).

**Conclusions.**– Telephone support based on accelerometric recordings appeared to be an effective strategy to improve the adherence to PA in non-compliant patients. This intervention could be implemented after CRP because it represents an inexpensive, modern and easy-to-use strategy.

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CO42-004-e

**May perceived exertion be used to personalize eccentric training?**

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**Keywords:** Eccentric; Training; Cardiac rehabilitation

**Purpose.**– Despite its superior effects for increasing muscle strength, with lower cardiorespiratory demand with regard to the concentric (CON) training [1,2], the eccentric (ECC) training is not currently used during the cardiac rehabilitation. A possible reason is the difficulty of perception of the fatigue. Our aim was to compare, in healthy subjects, the perceived exertion during CON and ECC exercises, with development of an identical strength, corresponding at a level 12 (ventilatory threshold) of the Borg scale [3], determined during a preliminary CON test.

**Methods.**– Three successive bouts of pedalling tests:

– progressive CON test, until reaching the level 12 of the Borg scale, to determine the comfortable pedalling power (CPP);

– steady CON exercise at CPP level, with measure of the plantar force (PF) and of the VO2;

– steady ECC exercise at the same PF level, with VO2 assessment.

**Results.**– Eighteen healthy subjects (15 males, 3 females, BMI 22.7 ± 1.8), Borg scale of 7–8 and of 12, for ECC exercise vs CON, PF of 118 ± 59.7 and 90.4 ± 65.8 N, for ECC exercise vs CON (P > 0.05). The end effort stabilized VO2 was of 7.6 ± 2.37 (resting VO2: 4.27 ± 0.65) and of 22.1 ± 4.65 ml/min/kg (resting VO2: 4.3 ± 0.8) for ECC effort vs CON.

**Conclusion.**– Because in particular of lower energy expenditure at level of comparable developed strength, the perceived exertion can not be used to adapt an ECC exercise, unlike a CON effort. Other means of ECC training personalization must be looked for.

**References**


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CO42-005-e

**Assessment by accelerometer of sedentarity and of adherence to physical activity recommendations after cardiac rehabilitation program**

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**Keywords:** Adherence; Assessment; Physical activity; Cardiac rehabilitation

**Purpose.**– To objectively assess, in stable cardiac patients, the adherence to physical activity (PA) recommendations using an accelerometer at two or 12 months after the discharge of cardiac rehabilitation program (CRP).

**Methods.**– Eighty cardiac patients wore an accelerometer at 2 months (group 1, short-term adherence, n = 41) or one-year (group 2, long-term adherence, n = 39) after a CRP including therapeutic education about regular PA. PA was classified as “light” (1–2.9 METs), “moderate” (3–5.9 METs), or “intense” (> 6 METs). Energy expenditure (EE, in Kcal) and time (min) spent in these three different levels were measured during a one-week period with the MyWellness Key actimeter. Motivational readiness for change was also assessed at the end of CRP. Patients were considered as physically active when a minimum of 150 min of moderate PA during the one-week period was achieved.

**Results.**– Both groups were comparable, except for exercise capacity at the end of the CRP which was slightly higher in group 1 (167.5 ± 42.3 Vs 140.7 ± 46.1 watts, P < 0.01). The total weekly active EE averaged 676.7 ± 353.2 Kcal and 609.5 ± 433.5 Kcal in group 1 and 2, respectively. The time spent within the light-intensity range PA was 319.4 ± 170.9 and 310.9 ± 160.6 min, and the time spent within the moderate-intensity range...