HealthManagement
Promoting Management and Leadership

Volume 4 - Issue 2 , 2010 - Cover Story: Cardiovascular Intervention

Measuring the Effectiveness of Post-Intervention Follow-Up Programmes :

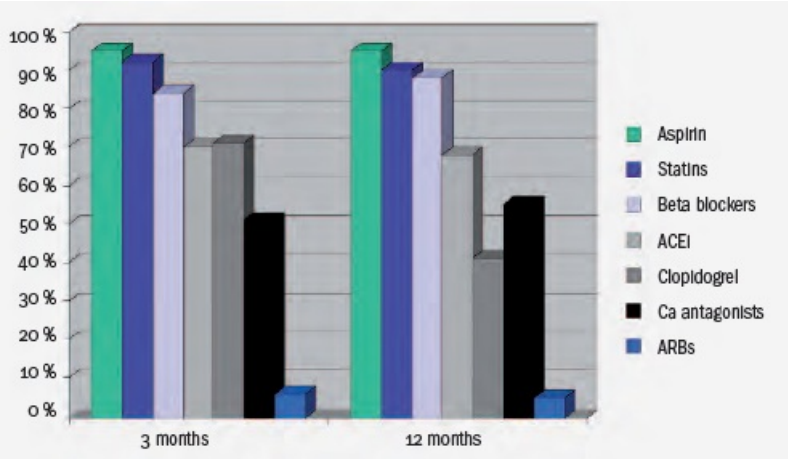
The Case for Coronary Heart Disease

Tailored post-intervention follow-up programmes for patients are key in ensuring the quality of patient care and completing the treatment cycle. In this article, we look at the case for coronary artery disease (CAD) patients, and discuss the results of a study carried oout at the Latvian Centre of Cardiology into the effectiveness of targeted follow-up with patients, and how far these programmes diverged from current guidelines in practice.

The revascularisation of coronary arteries combined with medication is the cornerstone of CAD treatment. CAD patients are at very high post-intervention risk for complications, so a targeted follow-up programme after revacularisation is an essential step that allows for the control of the clinical condition of CAD patients, to manage medical treatment and to increase the patient compliance in drug treatments or lifestyle recommendations.

At the Latvian Centre for Cardiology, we developed a study to examine the effectiveness of such a follow-up programme, which I will summarise here in this article. The parameters of the follow-up programme were thus; CAD patients treated with PCI were inspected via an exercise test or SPECT. Follow-up took place at three, six and 12- month intervals after the coronary intervention. Also, all the information on their individual medication, risk factors and lifestyles were collected. Medication was managed according to the official guidelines for CAD treatment.

Figure 1. Patients undergoing a follow-up programme. If we look at the indications for clopidogrel - how long and how much (guidelines suggest to use clopidogrel for six to 24 months). More frequent situations for medication correction were: three to six months after PCI – hypertension control (46% patients), six to 12 months after PCI – correction of hypolipidemics according the cholesterol level (72% patients).



For the duration of one year, 3,200 patients were inspected. Follow-up was done three, six and 12 months after revascularisation with PCI. Three months after PCI, 95% of patients were using aspirin, 71% were using clopidogrel, 6% used ARBs, 70% used ACE inhibitors, 84% betablockers, 51% - Ca antagonists and 92% - statins. After one year 95% patients were still using aspirin, 41% - clopidogrel, 5% - ARBs, 68% - ACE inhibitors, 55% - Ca antagonists, 90% - statins.

We concluded that a targeted followup programme is helpful in managing medical treatment according to guidelines for high-risk patients, qualified by risk profile. If we compare the data from our study with that of Euroaspire III, patients undergoing the follow-up programme are doing better in following the correct plan of medical treatment.

CHD in Latvia a Serious Concern

Firstly, coronary heart d isease (CHD) is the main cause of death for Latvian people, making its proper treatment crucial for healthcare in our country as well as for countries all over the world. As we know, patients with a proven diagnosis of CHD are at high risk for cardiovascular complications and sudden death. Despite the speedy development of invasive cardiology and novel solutions for these complications, there are still many unsolved questions regarding the numerous potentially effective treatment possibilities.

There is such a big choice of pharmacological agents that there are many guidelines for CHD treatment (the last being the ‘Guidelines on the Management of Stable Angina Pectoris’: 2006, ESC and 2007, LSC), but in real practice, recommendations are underutilised and patients are not benefitting from a holistic and complete approach to their treatment. The Euroaspire III trial showed that in general, potential medical treatments are not really employed to their maximum effect. With this in mind, we must develop ways of better implementing guidelines in practice to improve the efficacy of treatment of CHD patients.

Methods

A physical exercise test is the cheapest and most available method both in the initial diagnostic phase for CHD, for evaluation of severity of the disease, and for follow-up when treatment is initiated. This method, unfortunately, is not popular enough, although it can provide the specialist with valuable information about the clinical status of a patient.

A follow-up programme for these patients has been established since the beginning of the invasive CHD treatment in the Latvian Cardiology Centre. It consists of targeted exercise tests performed on a stationary bicycle. The goal of this follow-up is not only evaluation of patient's functional capacity after PCI, but also evaluation of treatment efficacy - it is possible to change medication according the data found doing the exercise test (blood pressure, heart rate, response to the work load, etc.). The exercise test for CHD patients treated with PCI was done:

• One month after PCI for evaluation of immediate risk and for medication correction;

• Three to six months after PCI to evaluate possible ongoing restenosis and for medication correction, and

• Twelve to twenty-four months after PCI for late period evaluation of the possibility of restenosis and/or medication correction.

If an exercise test was not informative enough, myocardial perfusion imaging (SPECT) is performed. This targeted follow- up programme is very important in secondary prevention for CHD patients, especially to evaluate the outcomes and treatment efficacy with the possibility to check usage of hypolipidemics, beta blockers, aspirin and clopidogrel as it is proposed in the guidelines and also to adjust the patient's risk profile (control of blood pressure, heart rate, cholesterol and glucose levels).

A follow-up programme was done in 80% of the 4,000 patients with PCI. The remaining 20% did not turn up to the cardiologist on a regular basis.

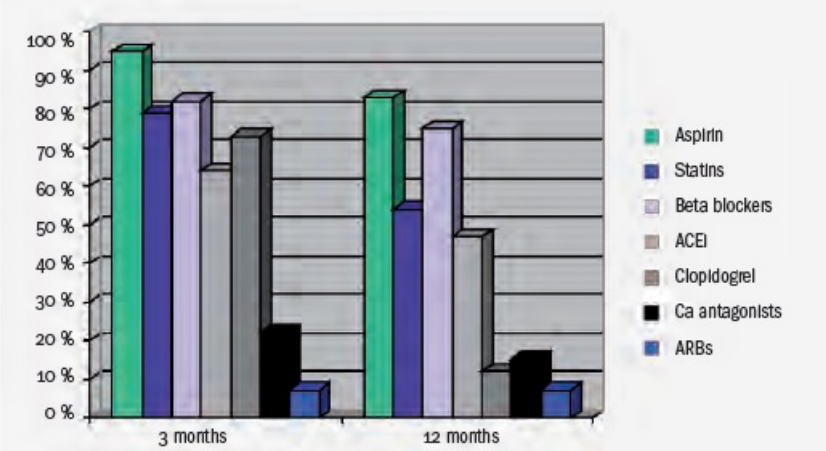
Results

For the 3,200 patient group that participated in the follow-up programme, an analysis of their medication was done three, six and 12 months after PCI. While an exercise test was carried out, any necessary medication correction, risk stratification and/or lifestyle modification also took place.

This allows the possibility of more accurate prediction of cardiovascular events and/or ongoing restenosis. Following the guidelines, the recommended treatment for CHD is as follows: anti-thrombotics (aspirin, clopidogrel), lipid-lowering therapy (statins), ACE inhibitors and ARB blockers, beta blockers and finally, Ca antagonists.

We also concluded that regular planned examinations as part of a structured followup programme give the enormously beneficial possibility to ensure consistent usage of medication by patients, particularly during the late phase (12 months after PCI), which helps to improve patient compliance and those, healthy outcomes.

Figure 2. Patients without follow-up programme. If we compare this group with patients without the follow-up programme (512 patients - 16 percent), 12 months after PCI they use 12 percent less aspirin, 16 percent less statins, 5 percent less beta-blockers, 11 percent less ACE inhibitors, 29 percent less Clopidogrel and 33 percent less Ca antagonists.



From the group of patients (128 patients – 4%) who "disappeared" for two years (128 patients – 4%), 89% of them were complaining of recommenced angina. 45 percent of these patients didn't use any medication! Aspirin was used in 62percent of patients, and hypolipidemics in 35 percent of them (of which, every single one of the doses were insufficient), 76 percent patients had a positive exercise test and a coronary angiography was done.

These facts prove the necessity of targeted and planned follow-up programmes, which gives the possibility to control and manage the medical therapy of CHD patients. The correction of medication according to the clinical and functional situation gives the possibility to establish effective medical treatment, to upgrade patients' functional level and increase quality of life. Crucial to the success of the programme is to gain patient compliance - the patient's education about possible risk factors, and regular risk factor correction helps to improve the patient's attendance during the treatment process.

Conclusions

A targeted follow-up programme doing the exercise test allows one to follow the precise therapeutic plan, improve functional capacity and treatment efficacy, perform any medication corrections, predict the CV event risk, predict the restenosis risk and establish better compliance in the treatment process. That is real possibility to implement the CHD treatment guidelines in clinical practice. This follow-up programme is easy to implement and also used in other hospitals in Latvia, where the patients are treated with PCI.

Coronary heart disease is a common and chronic disease. The further risk of CV events depends on the right diagnosis, precise treatment and the further management and control of the disease. That is why it is extremely important to check the functional and clinical situation of the patient and make the appropriate changes in the strategy of treatment and examination. This makes it possible to prevent the symptoms of

disease, ameliorate the patient's prognosis, and prolong a healthier life.

Published on : Sun, 31 Jan 2010