

PREDICTIVE MARKERS FOR RESTENOSIS: FB-2002

Description and pathology

DNA microarray to analyse the genetic polymorphisms in individuals with an implantation of coronary stents, to determine the existence of any genetic variant which could predict the risk of coronary restenosis after stent implant.

Percutaneous transluminal angioplasty (PTA) is currently the most frequent and effective procedure for coronary revascularisation. Stents are devices (similar to springs) that are placed inside obstructed vessels to increase the lumen and to enable better blood flow.

One complication from PTA not resolved by the use of stents is restenosis, which continues affects 10-40% of the population. Restenosis has a high healthcare and social-economy impact as it requires a new PTA or other different therapies such a coronary by-pass.

Nowadays, stents coated with antiproliferative drugs (ST-DA) have been launched to reduce restenosis, although the main disadvantage for their generalised use is the high cost involved and that they are possibly linked with later thrombosis.

Indications

Prediction of the risk to develop restenosis after the implantation of coronary stents in genetically predisposed patients.

Format

DNA microarray with SNPs. Fluid: Peripheral blood.

Observational study

A clinical observational study to correlate both genotyped blood samples and angiographies post-stents from 284 patients.

6 polymorphisms (SNPs) with a statistically significant association with the risk of “in-stent” reestenosis (ISR) have been identified.

In order to confirm the results from the previous study, an international study has been carried out in 2012 in 715 patients. The results revealed again an increased risk of ISR in patients carrying the 6 polymorphisms genotype.

Intellectual Property

- Spanish Patent granted on 13th June 2011: 200900507 (Priority date: 24th February 2009).
- USA Patent granted on 30th August 2011 (Priority date: 24th February 2009).
- European patent pending: (Priority date: 24th February 2009).
- Patent pending in: Canada, India, China and Japan.

