FONDAZIONE
INTERNAZIONALE
MENARINI

Press Release

Cholesterol and Heart Disease: from genetic research to new treatments

Milan, 21 April 2016 – High levels of cholesterol in the blood are an important risk factor since they contribute to development of cardiovascular disease, the principal cause of death in Western-world countries.

Thanks to statins, to the association of statins and ezetimibe, and to new treatments which can be efficacious even in the most difficult cases, keeping cholesterol levels under control is an ever-more attainable goal to which studies conducted on DNA have contributed heavily. In recent years we have seen much information, gleaned from genetic and biological research, which has pointed the way to a better understanding of the physiology and pathology of dyslipidemia. With the aid of genetic research, our knowledge of lipoproteins has increased considerably. Furthermore, study of DNA and of the mutations that cause the disease has contributed to developing new pharmaceuticals for treating various types of dyslipidemia. **These are the principal topics at the 'Plasma Lipids, Lipoproteins and Cardiovascular Diseases: from Genes to Clinical Intervention' International Symposium on the schedule in Milan from 21 to 23 April 2016, organised by the Centre for the Study of Atherosclerosis and the Centre of Epidemiology and Preventive Pharmacology of the Department of Pharmacological and Biological Sciences of the University of Milan and promoted by the Fondazione Internazionale Menarini.**

In recent years, statin therapies have determined a significant reduction in cardiovascular events; however, there remains a residual risk in certain population groups, including statin-intolerant

patients and patients at high cardiovascular risk in whom reduction of LDL cholesterol is not observed despite high-dose statin treatment. ‘In terms of clinical-therapeutic implications, the IMPROVE-IT study provided significant evidence in favour of use of combined treatment with high-efficacy statins and ezetimibe as the initial therapeutic approach in a vast category of patients presenting with acute coronary syndrome; that is, in all patents for whom a reduction in LDL cholesterol levels by more than 50% is required, in patients with chronic renal insufficiency and/or with diabetes,’ explains Alberico Catapano, President of the European Atherosclerosis Society, Professor of Pharmacology at the University of Milan and Symposium Chairman. ‘Patients treated with the association of statins and ezetimibe showed a reduction in LDL cholesterol levels of 24% with respect to patients treated with simvastatin alone. Additionally, the risk of myocardial infarction and ischemic stroke was also shown to have been considerably reduced.’

Another group that is difficult to treat are patients with familial hypercholesterolemia, a genetic dyslipidemia characterised by markedly high LDL-cholesterol levels and early-onset cardiovascular disease.

Children with one parent suffering from familial hypercholesterolemia have a 50% chance of being born with the same condition. The genetic mutation affects coding for the LDL receptor proteins, for which reason the liver is not able to metabolise or remove excess LDL and eliminate it from the body; this in turn determines high cholesterol levels from birth. Familial hypercholesterolemia is the world’s most common genetic condition, affecting one in every 200-250 people – yet less than 1% is diagnosed.

‘Reduction of cholesterol levels is extremely important for limiting the cardiovascular risk, yet only half of patients with familial hypercholesterolemia is treated with statins, in part perhaps because low-potency statins are inadequate for 95% of these patients, who, instead, can benefit from combination treatment with high-potency statins and ezetimibe, which can lower LDL cholesterol levels by 60-70%. But even with this treatment regime, only 1 patient in four obtains a reduction of LDL cholesterol to a level below 100 mg/Dl. Furthermore, a percentage of patients (between 7 and 29 per 100, depending on the study) is statin-intolerant and abandons treatment due to its side-effects,’ Catapano continues.

A correct diagnostic approach to these conditions, as widespread as they are under-diagnosed, calls for an accurate clinical and anamnestic assessment and monitoring of cholesterol levels over time. It is essential that an accurate family medical history be taken, including reporting of cardiovascular events in first-degree lineal relatives, with assessment of the age of onset, and a thorough objective examination including identification of the physical signs (if any) characteristic of the various forms of dyslipidemia (such as xanthomas, xantelasmas, arcus senilis). Only early diagnosis can permit adequate treatment and an improvement in these patients’ prognoses.

‘The strategies for treating hypercholesterolemia are currently quite limited, since the common lipid-lowering agents used in clinical practice (such as the statins, ezetimibe, bile acid sequestrants and nicotinic acid) have been shown to be by and large ineffective for achieving the treatment

goals, above all in the homozygous forms,' Catapano adds. Among the lipid-lowering agents, the anti-PCSK9 monoclonal antibodies are emerging as innovative and efficacious, even in groups of patients resistant to standard treatments. Good results have been obtained with bi-weekly or monthly administration, at various doses and in various types of patients, including those with familial heterozygous hypercholesterolemia, patients who do not respond to or are intolerant of statins and patients in whom adequate control cannot be achieved despite maximal tolerated cholesterol-lowering therapy. When used in conjunction with statins and ezetimibe, the anti-PCSK9 antibodies have been shown to have an additive effect that can lower LDL cholesterol by significantly more than 70%.

Press Office:

Marco Strambi

Phone: 328 3979185

E-mail: marco.strambi@ibiscomunicazione.it

FONDAZIONE INTERNAZIONALE MENARINI
Centro Direzionale Milanofiori
I-20089 Rozzano (Milan, Italy)
Edificio L - Strada 6
Phone: +39 02 55308110
E-mail: eibrahim@fondazione-menarini.it
E-mail: fgaias@fondazione-menarini.it
http://www.fondazione-menarini.it