Research (NAVIGATOR) trial, the short-acting sulphonylurea analogue, nateglinide failed to reduce overt type 2 diabetes and its complications, such as MI and stroke, in individuals with IGT. The ORIGIN Study did not demonstrate a reduction of CV events in IGT or newly-diagnosed diabetes with insulin glargine.

The concept of a metabolic memory supports the view, that earliest optimization of glucose control is essential for a long-term CV benefit in diabetes. This is also emphasized by the Joint Guidelines by the European Society of Cardiology (ESC) and the European Association for the Study of Diabetes (EASD) on Diabetes, Prediabetes and Cardiovascular Disease.

Increasing the awareness for the association of IGT and increased CV risk together with the initiation of earliest preventive strategies is fundamental for a future reduction of CV events in diabetes.

ISP20: Should we still revascularize diabetic patients with coronary artery disease and how?

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Type 2 diabetes mellitus (DM2), expected to reach 4.4% of the world population in 2030, represents a major risk factor for coronary artery disease. Until recent years, coronary bypass grafting was the favoured choice for revascularization in multivessel patients with DM2. Percutaneous coronary intervention (PCI) and use of drug eluting stents (DES) have profoundly modified the therapeutic strategies but major adverse cardiac events remain more frequent in DM2 patients with CAD. In diabetic patients with selected lesions, the use of DES leads to a reduction of revascularizations compared to bare metal stents both with the sirolimus eluting stent (SES, Cypher®, Cordis, Johnson and Johnson) and with the paclitaxel eluting stent (PES, Taxus®, Boston Scientific). Compared to DES, surgical revascularization is associated with better outcomes in patients with moderate or severe coronary disease evaluated by the SYNTAX score. Last generation everolimus DES (EES, Xience®, Abbott vascular) have improved biomechanical properties associated with low rates of restenosis and stent thrombosis. They have recently been evaluated in diabetics-dedicated registry (FEDIX/MEDIX) with good clinical results at one year.

PCI is only one part of the treatment of diabetic patients with CAD. Improvement in the efficacy and the safety of new DES should be evaluated together with optimal medical therapy of DM2 and associated risk factors.

New generation DES may alter current recommendations for myocardial revascularization in diabetic patients.

ISP21: Which antiaggregant strategy in diabetic patients with coronary artery disease?

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Cardiovascular disease is the leading cause of morbidity and mortality in patients with diabetes. The concomitant presence of multiple classical cardiovascular risk factors in diabetic subjects contributes to enhanced atherothrombotic risk [1].

However, other risk factors may be important such as abnormal platelet function. Patients with diabetes mellitus (DM) are characterized by enhanced platelet reactivity and a reduced response to oral antiplatelet medications used for the prevention of ischaemic events. Clopidogrel non responsiveness is more prevalent in diabetic compared with nondiabetic patients and is highest among patients requiring insulin therapy [2-4]. There is a need for alternative platelet inhibition strategies.

The standard-dose prasugrel resulted in greater platelet inhibition in aspirin-treated patients with type 2 DM and coronary artery disease than double-dose clopidogrel. Prasugrel also resulted in a better response profile with lower rates of poor responders [5]. The efficacy of Ticagrelor (reversible oral P2Y12 receptor antagonist) is better than clopidogrel and reduced ischaemic events in acute coronary syndrome patients irrespective of diabetic status and glycaemic control, without an increase in major bleeding events [6].

The diabetic patient can benefit from revascularisation procedures, even if he is exposed to a higher incidence of complications after a coronary artery bypass graft or a percutaneous transluminal coronary angioplasty. The use of drug-eluting stents dramatically reduces the risk of restenosis as compared to bare-metal stents; nevertheless, the rate of restenosis remains almost double in diabetic patients compared to that observed in non-diabetic subjects. Efficacious antiplatelet therapy in the long run is mandatory in all diabetic patients treated with drug-eluting stents.

References:

ISP22: Metabolic determinants of cerebrovascular disease in type 2 diabetes

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Epidemiological studies have postulated that prevalence of ischemic brain disease as well as the risk for ischemic stroke are significantly higher in patients with diabetes than in nondiabetics. However, the mechanisms underlying these influences are not yet elucidated.

Numerous studies have shown that insulin resistance (IR) can exert its influence on the development of atherosclerosis through different mechanisms, either directly, by inducing endothelial dysfunction, or indirectly, favoring risk factors for atherosclerosis such as hyperinsulinemia, hyperglycemia, dyslipidemia, hypertension, and hypofibrinolysis, which indicates a very complex relationship of IR and atherosclerosis.

When central nervous system is concerned, it has been shown that IR might be involved in different diseases, including cerebrovascular but also in neurodegenerative disorders and especially in different types of cognitive impairments.

The studies of metabolic determinants of cerebrovascular diseases, including ours, have shown that IR might play an important role in the occurrence of ischemic stroke, both in patients with type 2 diabetes (T2D) and in nondiabetics. In this context, our results demonstrated significantly decreased insulin sensitivity, evaluated using the minimal