P6517

Three-year clinical outcome of patients with abnormal glucose metabolism treated with contemporary drug-eluting stents

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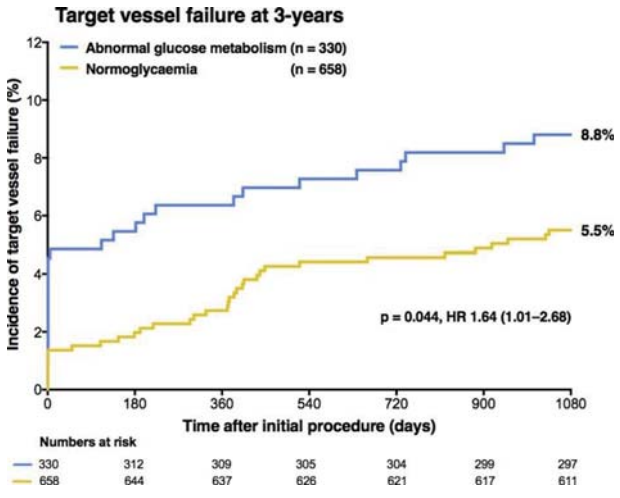
Background/Introduction: Patients with coronary artery disease that have an abnormal glucose metabolism are known to have more extensive and complex atherosclerotic coronary disease. In patients without previously known diabetes, abnormal glucose metabolism was shown to be independently associated with an up to four-fold higher event risk during the first year after percutaneous coronary intervention (PCI) with drug-eluting stents (DES).

Purpose: To examine the 3-year clinical outcome after stenting with contemporary DES in patients with abnormal glucose metabolism, either detected by oral glucose tolerance testing (OGTT) or by glycated haemoglobin A1c (HbA1c) and fasting plasma glucose.

Methods: The present analysis is a local substudy of the BIO-RESORT randomised trial. OGTT and HbA1c with fasting plasma glucose were prospectively assessed in 988 trial participants without previously known diabetes. The main clinical endpoint was target vessel failure, a composite of cardiac death, target vessel-related myocardial infarction or target vessel revascularisation at 3-years.

Results: In one out of three study participants (330/988), abnormal glucose metabolism was detected by either OGTT or HbA1c and fasting plasma glucose. Three-year follow up was available in 99.8% of these patients. The rate of target vessel failure was significantly higher in patients with abnormal glucose metabolism versus normoglycaemic patients (8.8% vs. 5.5%, p=0.044; Figure). This difference was driven by the incidence of periprocedural myocardial infarction that was higher in patients with abnormal glucose metabolism than in patients with normoglycaemia (4.5% vs. 1.4%, p=0.002).

Conclusion: Abnormal glucose metabolism was associated with a significantly higher risk of target vessel failure at 3-years; this difference was driven by higher rates of periprocedural myocardial infarction.



Target vessel failure at 3-years