Mediterranean Group for the Study of Diabetes

Scientific Highlights of the 15th MGSD Congress

MAX NIEUWDORP

MICROBIOME

Prof M. Nieuwdorp (The Netherlands) presented a lecture on the role of the microbiome in type 2 diabetes. In the first days of life, fetuses develop a microbiotic "fingerprint." Studies have shown that people born by cesarean section are significantly more likely to be obese at 18 years, due to lack of exposure to fecal bacteria. The more diverse the microbiota, the greater the benefits in terms of reduced insulin resistance, reduced NAFLD/NASH, and reduced low-grade inflammation. Recently, it has been shown that an adjusted diet based on a patient's microbiota caused significant reductions in post-prandial blood glucose and that fecal transplant from a lean donor could temporarily improve insulin sensitivity. Probiotics could play a key role in the management of type 2 diabetes.

INCRETIN-BASED THERAPIES: NEW INSIGHTS

EDUARD MONTANYA

Prof E. Montanya (Spain) presented new insights into incretin-based therapies, focusing on new combinations and ITCA 650, an innovative delivery system of exenatide. The DURATION trial showed that the combination GLP-1 RA/SGLT2i has higher efficacy at lowering HbA_{1c} than the individual therapies, with a significant body weight reduction. The combination of GLP-1 RA/insulin contains two components with complementary benefits in terms of HbA_{1c}, fasting plasma glucose, and postprandial glucose reduction, with a reduction in the risk of side effects. FREEDOM trials have shown the benefits of ITCA 650 in terms of HbA_{1c} lowering, low hypoglycemia risk, and significant weight reduction, while overcoming the key problem of adherence.

ERIC RENARD

ARTIFICIAL PANCREAS

Prof E. Renard (France) presented a lecture on the artificial pancreas. He discussed the development of the artificial pancreas, with the first insulin pumps available in the 1970s and glucose sensors in 1999. The key objectives of a truly artificial pancreas are to reduce hypoglycemic events, to increase the proportion of time at normal glucose levels, and, finally, to reduce hyperglycemic episodes. We are now at the point where we have several hybrid closed-loop insulin delivery systems in development. And recently, the first one has been shown to be safe, and was approved by the FDA for type 1 diabetic patients. Future steps for development are ongoing to improve the algorithm and more closely mimic physiological glucose control.

METABOLIC-BARIATRIC SURGERY

GELTRUDE MINGRONE

Prof G. Mingrone (Italy) gave a lecture on metabolic-bariatric surgery. She presented data showing that although with lifestyle modifications it is possible to obtain a 7 kg reduction over 6 months, these results rarely persist, due to poor long-term adherence to lifestyle modifications. There are 2 key drugs available in Europe for weight loss in obese patients: orlistat, effective at high doses, but associated with high gastrointestinal side effects, and liraglutide, which has been shown to provide an 8% weight loss at 1 year. Metabolic-bariatric surgery, in type 2 diabetes or obese patients, has been shown to provide a reduction of two percentage points in HbA_{1c}, associated with longstanding weight loss, raised HDL, and 95% remission of diabetes at 2 years, reduced to approximately 60% at 5 years.

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SATELLITE SYMPOSIUM: FROM EVIDENCE TO CLINICAL PRACTICE: HOW TO OPTIMIZE ORAL ANTIDIABETIC THERAPY?

JOSANNE VASSALLO

"The fundamentals when managing type 2 diabetes" *J. Vassallo (Malta)* presented an overview of the fundamentals to be taken care of when managing type 2 diabetes. Prof Vassallo highlighted the need for tight and early glycemic control based on clinical evidence from landmark trials in type 2 diabetes, such as UKPDS and ADVANCE, while avoiding hypoglycemic events. Also, a multifactorial strategy should be applied and individualized glycemic targets defined for proper management of type 2 diabetes.

"Achieving targets with the available oral antidiabetics: what does the evidence say?" *D. Carvalho (Portugal)* presented the evidence for each class of oral antidiabetics in terms of glycemic control, risk of hypoglycemia, renal protection, and cardiovascular protection. Prof Carvalho highlighted the differences in terms of risk of hypoglycemia and renal benefits among the class of sulfonylureas, and the first evidence of cardiovascular protection with SGLT2i and GLP1 agonists.

DAVIDE CARVALHO

SAUD AL SIFRI

"Tailoring type 2 diabetes management to each patient: case studies" *S. Al Sifri (Saudi Arabia)* gave a great interactive presentation of two real-life clinical cases highlighting the benefits of Diamicron MR: Noora, obese, type 2 diabetes for 10 years, HbA_{1c} uncontrolled with metformin, who was treated successfully with gliclazide MR 60, and Ali, young, newly diagnosed with type 2 diabetes, intolerant to metformin, with proteinuria, who was also successfully treated with gliclazide MR.

MEDITERRANEAN DIET

JAAKKO TUOMILEHTO

Prof J. Tuomilehto (Kuwait) presented the benefits of the Mediterranean diet. This diet, high in monounsaturated fatty acids (present in olive oil, nuts, etc.), has been shown to lead to a reduction in insulin resistance, likely due to its antioxidant properties. Studies have shown that people who follow a Mediterranean diet have a lower BMI. The PREDIMED study (Spain) examined high CV risk patients over 55 years old and found a significantly greater reduction in type 2 diabetes with a Mediterranean diet based on extra virgin olive oil vs a low-fat diet. Thus, a diet of abundance, with antioxidant fatty acids, appears to have greater benefits than a diet of restriction. There are an increasing number of publications linking the benefits of the Mediterranean diet to the microbiome and reduction of the risk of dementia.