receptor agonist (SURMOUNT 1) in obese people (mean BMI 38 kg/m^2, 104.8kg) with related complications, excluding diabetes. The 72-week trial included 20 weeks of dose escalation to achieve the target dose (5/10/15mg sc once-weekly). All doses resulted in significant weight loss compared to placebo and at least 85% of treated subjects experienced a 5% decrease in body weight (vs 35% on placebo); a ≥20% reduction in body weight was achieved by 50% and 57% of people receiving 10mg and 15mg, respectively. The commonest adverse events with tirzepatide were gastrointestinal. Trial discontinuation occurred in 4.6-7.1% of those receiving tirzepatide and 2.6% of people on placebo.[5] SURPASS 1,2,3 and 5 investigating tirzepatide in people with T2DM were presented at ADA 2021. This year SURPASS 4 (in patients at high cardiovascular risk, of whom 87% had had an event and nearly 55% had poor renal function: eGFR<60mL/min/1.73m^2, microalbuminuria or macroalbuminuria) showed that tirzepatide reduced the decline in eGFR, new-onset macroalbuminuria, progression to endstage renal disease and renal death compared to patients treated with insulin glargine.[6] The SURPASS studies have been reviewed by De Block *et al*.[7] A session devoted to the ADA-EASD guidelines discussed potential alterations, but decisions were deferred to permit further discussion prior to presentation at EASD 2022.

Trial acronyms

SURMOUNT 1	A Study of Tirzepatide (LY3298176) in people with obesity or BMI 27kg/m^2 and related co-morbidities, excluding type 2 diabetes
SURPASS	A Study of Tirzepatide (LY3298176) in people with type 2 diabetes

1: in people with type 2 diabetes not controlled with diet and exercise alone
2: versus semaglutide once weekly as add-on therapy to metformin in people with type 2 diabetes
3: versus insulin degludec as add-on to metformin ± a sodium glucose co-transporter 2 inhibitor in people with type 2 diabetes
4: versus insulin glargine in people with type 2 diabetes at increased vascular risk as add-on to metformin ± sulphonylurea/sodium glucose co-transporter 2 inhibitor
5: versus placebo in people with type 2 diabetes inadequately controlled on insulin glargine ± metformin

Diary date

Now is the time to plan for some California dreaming and book your annual leave to include 23-26 June, 2023, when the ADA meeting will take place at the San Diego Convention Center. It is in the Marina District of downtown San Diego with stunning views across San Diego Bay and the city offers access to diverse geography within a few hours' drive (I should have been a tour guide), or if you're not feeling too adventurous, perhaps a trip to the city's famous zoo? January 9th is the deadline for abstract submission.

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Impressions from EASD 2022

Dr Caroline Day reports on the European Association for the Study of Diabetes 58th annual meeting; aka Hybrid EASD 2022

Introduction

The 58th Annual EASD meeting was held in Stockholm (the scheduled venue for the 2021 meeting, which was relocated exclusively to cyberspace) as a hybrid event, with interactions online and onsite for those who had endured often tortuous travel logistics consequent to the pandemic. All oral presentations were delivered live from the lectern, thereby avoiding the distractions of the speaker's office or domestic décor (no more 'housebarrassment') and dodgy WiFi as well as ensuring onsite attendance. At least 70% of the >11,000 registrants for this year's meeting were on site (compared with 15,575 delegates when EASD was last held in Stockholm in 2015).

Engaging with the event

Accessing https://www.easd.org leads to an EASD welcome page where the meeting abstracts and the programme can be accessed. This comes as an interactive flipbook or downloadable pdf – programme at a glance for scientific sessions (p24-31) and industry sessions (p250-254) and there is a link to the virtual meeting site. There are also links to a downloadable deck of 114 slides and a pdf of the ADA-EASD consensus document.[1,2] Access to the Virtual Meeting platform offers delegates the opportunity to download a special edition of *Diabetologia* devoted to precision medicine. There was also an EASD-ADA symposium (Wednesday, 8.30am) on the same topic and an EASD TV interview.[3,4] It is worth surfing EASD TV for interviews and discussions with the EASD hierarchy and session presenters.[4]

As usual, the day prior to commencement of the scientific sessions was devoted to Industry presentations, and there were

'Meet-the-Expert sessions and evening symposia starting around 6.00pm Tuesday-Thursday. For the enthusiast there were short (10-30 minute) sessions starting around 8am Tuesday-Friday. Most of these activities can be viewed via the industry section (orange) on the virtual meeting site.

At this year's meeting there were 45 symposia sessions, 48 standard oral presentation sessions (Abstracts 1-264) and six (A-F) short oral discussion sessions (Abstracts 265-878) which replaced the poster sessions – so no onsite opportunity for secret assignations or serendipitous loitering in the poster halls. The EASD e-learning sessions were scheduled at the same time as short oral discussions.

Highlights

Despite this stupendous smorgasbord providing presentations to satisfy a spectrum of specialties and learning requirements there was little to cause excitement. As usual the award lectures were highpoints of the meeting and coincidentally the lectures of Michael Nauck and Matthias Tschöp were complementary (Table 1). Was there anything new since ADA? It is worth tuning in to the UKPDS 44-year follow-up symposium (Wednesday 8.30am) to get a summary of the history of the interventional study which changed practice, and to see the recent results from the longest clinical study in type 2 diabetes (T2DM). The latest data show how the legacy effect of early 'intensive' glycaemic control first identified in the UKPDS 30-year analysis remains almost unchanged after 44 years of follow-up. Examples include 11% fewer deaths, 26% fewer microvascular complications with sulfonylurea or insulin (mean 0.9% HbA_{1c} reduction during intervention) and 31% fewer heart attacks and 25% fewer deaths with metformin (mean 0.6% HbA_{1c} reduction during intervention), suggesting value-added actions of metformin. Health economics data show that early intervention to achieve good glycaemic control is cost-effective, and that it improves longevity and quality of life (especially with metformin). The EASD TV interview provides an overview of the study.

The SURMOUNT symposium (Wednesday 8.30am), which included an interesting commentary, focused on SURMOUNT 1 (aka ADA 2022), which showed that once-weekly injection with the dual incretin receptor agonist tirzepatide resulted in substantial weight loss in obese people without T2DM.[5]

The DELIVER symposium (Thursday 5.15pm) indicated the appropriation of a diabetes drug by cardiologists. The study initially reported at ESC 2022.[6] Patients with heart failure and a left ventricular ejection fraction >40% were assigned to usual care with or without the addition of dapagliflozin 10mg once a day for a median of 2.3 years. Compared to placebo, dapagliflozin significantly reduced cardiovascular death (8.3% vs 7.4%) and worsening heart failure (14.5% vs 11.8%), with dapagliflozin showing benefit across the study populations regardless of their diabetes status. In the DELIVER study population 50.3% of patients had T2DM, 30.9% had pre-diabetes (HbA_{1c} 5.7-6.4%) and 18.8% were normoglycaemic. The new data presented at EASD showed, as might be expected, that event rates increased with worsening glycaemia, both within each subgroup and along the HbA_{1c} continuum. There were no significant differences or trends based on left ventricular ejection fraction across the three glycaemic subgroups, and no statistical interactions between the subgroups and the treatment effects of dapagliflozin. There are several recent publications (August-October 2022) associated with this trial, see http://clinicaltrials.gov/show/NCT03619213.

The finalised ADA-EASD glycaemic management consensus report was delivered at a symposium in one of the final sessions of the meeting (Friday 12.15pm).[2] The main thrust of this iteration of the guidance is to encourage a more patient-centred holistic approach to treatment, particularly with regard to body weight and atherosclerotic cardiovascular disease, whilst not forgetting glycaemic control – a report that is possibly of more use to policy writers than busy practitioners.

The future

EASD 2023 is scheduled for 2-6 October at

Table 1 Award lectures at EASD 2022

Prize	Lecturer	Title (day and time of presentation)
54th Claude Bernard Lecture	Michael A Nauck Germany	An updated incretin concept for tomorrow (Tuesday, 9.00am)
37th Camillo Golgi Lecture	Michael Horowitz Australia	Gastric emptying in diabetes – backwards and forwards: a perspective from the antipodes (Tuesday, 4pm)
16th Albert Renold Lecture	Maike Sander USA	Deconstructing development to reconstruct beta cells from stem cells (Tuesday, 4pm)
8th EASD-Novo Nordisk Foundation Diabetes Prize for Excellence	Annette-Gabriele Ziegler Germany	Starting the clock to type 1 diabetes (Wednesday, 5.30pm)
57th Minkowski Lecture	Martin Heni Germany	The insulin resistant brain: impact on whole-body metabolism and body fat distribution (Thursday, 4.15pm)
EASD-Lilly Centennial Anniversary Prize Lecture Year 1:Landmark pharmacologic therapies	Matthias Tschöp Germany	Dual and triple gut hormone co-agonists: from discovery to approval (Thursday, 4.15pm)

Abbreviations

ADA	American Diabetes Association
EASD	European Association for the Study of Diabetes
ESC	European Society of Cardiology
SURMOUNT-1	A study of tirzepatide (LY3298176) in people with obesity or BMI 27kg/m^2 and related co-morbidities, excluding type 2 diabetes
UKPDS	United Kingdom Prospective Diabetes Study
DELIVER	Dapagliflozin evaluation to improve the lives of patients with preserved ejection fraction heart failure

the conference centre in the heart of Hamburg, Messeplatz 1, 20357. There are daily direct flights from the UK to Hamburg, but presumably it will be a hybrid meeting so we'll have the choice of being home or away.

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