Results:

Parameters	Baseline	Week 24	Change
HbA1c (%)	8.6±0.9	7.2±0.6	-1.4%
Liver fat content (dB/m)	346.4±38.2	208.3±24	-138.1
Reversibility of transaminases	34/34	27/34	82%
Weight (kg)	84.3±8.6	79.1±6.7	-5.2

Conclusion:

1. Liraglutide-degludec FDC is effective for reducing hyperglycemia in uncontrolled diabetes
2. It also reduces hepatic steatosis and effectively cause reversal of elevated transaminases as well as weight reduction
3. We recommend liver histology study for efficacy of this FDC in NASH treatment in T2DM

099

Other

ATTD19-0125

DIABETES ADVANCED NETWORK ACCESS (DANA) – CONNECTING CARE TEAMS AND TECHNOLOGY: PROVIDING AN INNOVATIVE TECHNOLOGY RESOURCE REMOVING BARRIERS TO CARE

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Background: Innovation is changing the way we manage, monitor and treat diabetes. New technologies are emerging daily and keeping up with the latest information is a challenge for any clinician.

With the rapid evolution of technology, the proliferation of patient-generated data, and the need to connect the care team with the latest technology, a resource was needed to help practitioners focus on what they do best—caring for their patients.

Methods: American Association of Diabetes Educators created an online platform that provides a central repository of diabetes technology.

In 2017, AADE surveyed members and found:

- 93% of educators interested in learning new technologies
- 91% would recommend technology to patients,
- 85% did not have a centralized resource to learn more

In response to this need, AADE developed DANA, a **robust, always-current destination where clinicians can:**

- Research and review the latest devices and mobile apps
- Access technology-focused continuing education and device training
- Participate in innovation-shaping research
- Search a repository of news and evidence-based research

Results: Launched in August 2018, DANA is changing the way educators work. A resource where members can learn about the latest technology, is assisting in the adoption and utilization of devices and apps in the clinical management of people with diabetes. Averaging 4500 users a month, it's becoming the go-to technology tool for clinicians.

Conclusion: DANA is helping clinicians lead using technology to achieve positive health outcomes. Case studies show DANA is receiving enthusiastic feedback. AADE plans to extend DANA with a robust phase II in 2019.

100

Other

ATTD19-0274

PRECLINICAL VALIDATION OF A CELL ENCAPSULATION DEVICE TO TREAT TYPE 1 DIABETES

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The bioartificial pancreas MailPan® consists of a pouch made of semi-permeable membranes to encapsulate insulin-secreting cells. Membranes are designed to allow rapid diffusion of glucose, insulin, nutrients while rejecting IgG.

The selectivity of membranes was first validated *in vitro.* Safety was then assed in rats, primates and pigs. Ability of the device to prevent immunization of recipient against encapsulated cells was assessed in rats. Finally, function of the device filled with a rat beta cell line was assessed in a diabetic rat model.

Diffusion tests performed on membranes revealed a rapid passage of insulin, glucose and oxygen while no passage of IgG was observed. Implantation of MailPan® device in peritoneal cavity of 6 non-diabetic Lewis rats resulted in a transient increase of α-2-Macroglobulin (α2M) and Monocyte Chemoattractant Protein-1 (MCP-1), two weeks after implantation, then rapidly resolved. These data together with histological analyses after implantation in rat, pigs and primates showed that the device is very well accepted. Injection of allogeneic islets in the device did not result in a significant increase of plasmatic α2M and MCP-1, and no antibodies against donor Major Histocompatibility Complex were detected in the serum of recipients. In diabetic rats, MailPan® device filled with rat beta cells was able to normalize glycaemia, and restore glucose tolerance.

Taken together, these data demonstrate that MailPan® is one of the most promising solutions for cell therapy in type 1 diabetes treatment, and could also be translated to other cell therapy applications, which require an encapsulation device.