Diabetes Mellitus and Glucose Metabolism

**DIABETES TECHNOLOGY**

**The Fast-Evolving Connected Diabetes Care Landscape: Transforming Diabetes Care with Telehealth and Technology**

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**SAT-636**

The Fast-Evolving Connected Diabetes Care Landscape: Transforming Diabetes Care with Telehealth and Technology

Background and Aims

Recent years have brought about a new form of “connected diabetes care,” defined as digital diabetes management systems based around (1) smartphone apps, (2) devices with built-in connectivity, and (3) remote human and automated coaching and support. Given their potential to help improve health outcomes, the rapid pace of innovation, and the dearth of information about them to guide patients, providers, and payers, we provide an update on the landscape of and trends in connected diabetes care offerings.

Methods

Prominent connected diabetes care providers that have published results are categorized and characterized. Similarities and differences are identified and the state of available evidence is evaluated.

Results

Connected diabetes care offerings were analyzed for items including: health conditions managed, care team composition, connected medical devices, and evidence. We expect these players will further expand offerings across chronic conditions, strive to integrate more deeply with the traditional healthcare system, deploy greater automation to promote scalability, and find clever ways to support the use of continuous glucose monitoring in type 2 diabetes. Future evidence generation for this field should have more standardized methodology.

Conclusions

The field of connected diabetes care has tremendous potential to improve outcomes, but it is in its infancy in terms of awareness, uptake, and effectiveness. Further, questions regarding offerings’ abilities to support most people with diabetes sustainably remain. However, existing evidence is sufficient to support further exploration and refinement of the model as the next step in team-based diabetes care.

**Neuroendocrinology and Pituitary**

**NEUROENDOCRINOLOGY AND PITUITARY**

**MON-282**

Treatment of Hyperprolactinemia with Ropinirole: An Open-Label Dose Escalation Study

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Purpose

Treatment of hyperprolactinemia and prolactinomas with ergoline dopamine agonists (DAs) can be complicated by intolerance and resistance. Ropinirole (ROP) is a low cost selective D2/D3 receptor non-ergot DA, approved for treatment of Parkinson’s disease and Restless Leg Syndrome, that has been shown to acutely lower prolactin levels (PRL). This study investigated the efficacy and tolerability of long-term ROP therapy in patients with hyperprolactinemia.

Methods & Results

Ten healthy women (21-45 yrs) with hyperprolactinemia were treated with ROP (0.25-6.0mg/d) for 6 months in an open-label dose escalation study. Clinical and biochemical status was assessed monthly and ROP doses were up-titrated to achieve normal PRL levels, restore menses, and eliminate galactorrhea. Two subjects had macroprolactinomas, 7 had microprolactinomas, and 1 had idiopathic hyperprolactinemia. 8/10 had previously been
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DIABETES COMPLICATIONS II

An Overlooked Cause of Diabetic Pain

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MON-670

Persistent hyperglycemia has been associated with vascular damage in patients with uncontrolled diabetes. Special emphasis has been placed on the heart, kidneys, eyes, and brain since those major organs are vital. However, little has been studied in terms of the vascular supply to the muscle and how it could be affected by high blood glucose. Here we present a 26-year-old female with a history of uncontrolled Type 1 Diabetes Mellitus treated with insulin pump who presented with muscle aches on her right lower extremity. During the evaluation at the Emergency Department (ED), the patient was noted to have diabetes ketoacidosis, intravenous fluids and insulin drip were started. As part of the workup for the muscle aches multiple blood studies were ordered including Creatinine Phosphokinase (CPK) 26 IU/L (25 - 185 IU/L), Erythrocyte Sedimentation Rate (ESR) 102 (25 - 185 IU/L), Erythrocyte Sedimentation Rate (ESR) 102 - 185 IU/L, Erythrocyte Sedimentation Rate (ESR) 102 - 185 IU/L. 

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Diabetes Mellitus and Glucose Metabolism

CLINICAL STUDIES IN OBESITY, DIABETES RISK, AND CARDIOVASCULAR OUTCOMES

Glucose Intolerance Modifies the Association Between Insulin-Like Growth Factor-1 and All-Cause Mortality

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SAT-623

Background: Despite an increase in literature on insulin-like growth factor-1 (IGF-1) and its impact on insulin sensitivity, there remains controversy over its association with all-cause mortality. Insulin interacts with IGF-1 and its binding proteins, forming a growth hormone/IGF-1/insulin axis that may be impaired in Type II diabetes and/or prediabetes. We hypothesized that the association between insulin and IGF-1 with all-cause mortality differs in those with glucose intolerance (GI) in a nationally representative U.S. population with long-term follow-up. Methods: A total of 5,283 non-pregnant adults >20 years from the National Health and Nutrition Examination Survey (NHANES)-III (1988-1994) were linked to the National Death Index through 2015. Glucose intolerance was classified as per fasting blood sugar (≥100 mg/dl), hemoglobin A1c (≥5.7%), medication use, or self-reported diagnosis. IGF-1 was categorized into (0 - 20), C-Reactive Protein (CRP) 3.4 mg/dL (≤0.80 mg/dL), Aldolase 7.5 U/L (≤=8.1 U/L), White Blood Cell (WBC) was 13.1 B/L (4.0 - 11.0 B/L). At this point, a muscle biopsy was considered given the lack of evidence to support a definite diagnosis. Before proceeding with the biopsy, a Magnetic Resonance Imaging (MRI) of the low extremities was done, showing diffuse intramuscular edema, predominantly in the right vastus intermedius, with additional patchy intramuscular edema in the right vastus lateralis, vastus medialis, and biceps femoris, as well as the left gluteus maximus, vastus lateralis which were compatible with myositis. Also, discrete areas of myonecrosis in the right vastus intermedius (1.7 x 1.1 x 3.6 cm), left vastus lateralis (1.7 x 0.8 x 6 cm) and left gluteus maximus (2.8 x 3 cm x 6 cm). Given her previous history of uncontrolled diabetes, the clinical presentation with low CPK levels, lack of data to support another diagnosis, and MRI findings the possibility of diabetes myonecrosis was raised. The patient was managed with conservative therapy: intravenous fluids, pain control and aspirin with improvement in myalgias and muscle strength. Diabetic myonecrosis is a rare condition that appears to be related to vasculopathic changes on uncontrolled diabetes. The lack of specific diagnostic tools and the nonspecific symptoms could make this condition to be overlooked easily; leading to unnecessary studies like muscle biopsy with consequences from complications and increased health care expenditure. A high index of suspicion is essential for timely treatment, which is limited to rest, optimal glycemic control, pain control and patients who are candidates low-dose aspirin. This condition resolves spontaneously over a few weeks to months in most patients and acknowledging this condition could provide timely relief and reassurance.