evolved to address the complexity of weight loss for those with one or more chronic diseases, and the trend of weight regain. The aim of these interventions is to encourage sustainable lifestyle changes, resulting in weight loss and weight maintenance and improvements in comorbidities. While some prospective clinical trials have demonstrated efficacy, results are often not reported by real life practices. The aim of this study was to evaluate the effectiveness of a Sydney based multidisciplinary weight management clinic with endocrinology, dietetics, exercise physiology, psychology, and bariatric surgical domains. All patients who attended the clinic for weight loss purposes between March 2017 and April 2019 were included (n=220). A retrospective chart review was conducted. Patient data on weight, BMI, waist circumference, body composition measurements, and selected blood test results and co-morbidities were analysed. All patient therapy included endocrinological input for co-morbidity identification and management, lifestyle intervention (dietetic and exercise physiology input) with optional adjunct pharmacotherapy or psychological counselling. Of the 220 cohort, 20 of the patients had sleeve gastrectomy.
Patient retention in the clinic after the first consultation was 85% (n=186), a high rate within the weight management community. 59% of patients achieved a minimum of 5% total body weight loss, including 18% who achieved greater than 10% total body weight loss. Additionally, 31% of patients lost enough weight to decrease their BMI class by up to 2 or more classes. Of the gastric sleeve cohort average excess body weight loss was 32kg (21-56kg) enhanced by multidisciplinary care in the lead up to surgery. Across the cohort some patients completely reversed co-morbidities; including dyslipidaemia (n=1), hypertension (n=3), NAFLD (n=1), pre-diabetes (n=8) and type 2 diabetes (n=3), OSA (n=1). These results demonstrate that obesity is a chronic condition that can be successfully managed. We have demonstrated significant durable weight loss and improvement in metabolic co-morbidities with holistic coordinated care. Future directions include translating this model of care into standard practice in Australia and other countries where obesity to date not received the same coordinated approach as other chronic conditions.

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 promote and 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

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

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MON-282

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

treated with cabergoline and/or bromocriptine. 5/10 were intolerant and 1/10 was resistant to ergot DAs. Pituitary MRIs were performed at baseline and 6 months.ROP was initiated at 0.25mg QHS in 9/10 subjects. One subject with severe DA intolerance was initiated on 0.125mg QHS. Subjects reaching a total daily dose (TDD) > 2.0mg/d were transitioned to ROP extended release. At study completion, TDDs ranged from 1-6mg/d, with a median TDD of 2mg/d. Baseline PRL levels were 136 ± 49ng/ml (1.9-25ng/ml). Stable PRL normalization was achieved in 50% of subjects. Of the subjects achieving normal PRL, 4 had microadenomas and 1 had idiopathic hyperprolactinemia, and the median effective TDD was 1mg/d (1-4mg/d, range). Among those not achieving PRL normalization, PRL decreased 46 ± 5.4% (Mean ± SEM) from baseline, at a median TDD of 4.0mg/d (2-6mg/d, range). In the subject with documented resistance to ergot DAs, PRL decreased from 529 to 320ng/ml, after 3 months of ROP on the maximum dose studied (6mg/d), but rose to 690ng/ml at 6 months. During ROP treatment, menses normalized in 57%, and galactorrhea resolved in 67% of affected subjects. At study completion, tumor size was unchanged in 7/8 prolactinomas. A 20% decrease in tumor size was observed in one macroadenoma, accompanied by a 30% reduction in PRL levels. There were no changes in BP, HR, weight, renal or kidney function. Mild adverse effects (AEs) were recorded in 80% of subjects. Fatigue (60%), nausea (40%), and headache (20%) were most common. Reported AEs declined after month 1 and ROP was not discontinued due to intolerance.

Conclusion

These data provide support for the efficacy of ROP in the treatment of hyperprolactinemia in patients with microprolactinomas and idiopathic hyperprolactinemia. While further study is needed, ROP treatment for hyperprolactinemia could be considered in patients with ergot DA intolerance or significant cardiac valve disease.

Diabetes Mellitus and Glucose Metabolism

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 (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 intermedialis (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 diabetics. 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.

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