The Long-term Efficacy and Safety of Pyloroplasty Combined with Gastric Electrical Stimulation- A Single Academic Center Experience

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Introduction: Gastric electrical stimulation (GES) improves refractory gastroparesis (GP) symptoms, but this therapy has minimal effect on the gastric emptying (GE). To further address this therapeutic deficiency, we have added Pyloroplasty (PP) to GES implantation. This study assesses the efficacy/safety of combining surgical PP with GES and the correlation of changes in GE with improvement of GP symptoms after combining GES and PP.

Materials and Methods: Using robotic system, 28 GP patients underwent GES implantation together with the Heineke-Mikulicz PP. Total GP symptoms scores (TSS) were obtained by using a 5-point Likert scale at baseline and the last follow-up visit, ranging from 3 to 38 months. The 4-hrs scintigraphy GE test was conducted before surgery and at follow-up visits.

Results: 3 patients died from their comorbidities in 3, 5 and 14 months after surgeries. Mean TSS was significantly decreased from 3.16 to 0.94 points. The statistically significant trend of decreased symptoms was sustained after categorizing the patients to diabetic and idiopathic gastroparetics. After surgery, the mean retention of the radiolabeled meal was decreased by 18.1%, 29.6%, 30.4% and 48.7% at 1, 2, 3 and 4 hours, respectively, while 60% of GP patients normalized their rate of GE at the follow up visit. The weight was stable and there was significant reduction in days of hospitalization from 57.3/patient to 6.2 days/patient. There were not post-surgical complications or technical problems.

Conclusion: By combining GES and PP, we were able to address both the subjective and objective goals in treating drug refractory gastroparesis.

Role of HMGB1 Inhibitor Glycyrrhizin in Diabetic Complications

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Introduction: Diabetic nephropathy and sensory neuropathy are the most debilitating complications of diabetes which greatly affects the quality of life of the patients. Recent evidence suggests

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that the inflammatory pathway plays a crucial role in the development of these complications. We hypothesize that inhibition of inflammation will prevent or delay the development of neuropathy and nephropathy. We have investigated the role of a number of inflammatory mediators including HMGB1 and early injury markers in the diabetic kidney and nerve. High mobility group box 1 (HMGB1) protein is a novel biomarker of inflammation and we have recently shown that HMGB1 is up-regulated in diabetic animals. This study is designed to investigate whether blocking HMGB1 by its natural inhibitor Glycyrrhizin can reduce the progression of these complications.

Materials and Methods: Type 1 and 2 diabetic rats were treated with TLR4 antagonist TAK242 and HMGB1 inhibitor Glycyrrhizin for 5 days/week for 2 weeks I.P. The expression of inflammatory markers, HMGB1, TNFa, IL-1β was determined by immunohistochemistry and Western blot analysis. Pain behaviors were tested before and after the treatment.

Results: Behavioral and biochemical studies revealed that diabetic rats treated with either TLR4 inhibitor or HMGB1 inhibitor exhibited marked decrease in IL1β, TLR4, TNFa and pP38 as well as significant changes in thermal and mechanical hyperalgesia 6 weeks after diabetes.

Conclusion: This study demonstrates that HMGB1-mediated inflammation is involved in nephropathy and neuropathy in Type 1 and 2 diabetic animals and that the interruption of inflammation could ameliorate these conditions.

Neuroprotective Effect of Lutein in Perinatal Hypoxic-Isch-
emic Brain Injury

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Introduction: Hypoxic ischemic encephalopathy (HIE) is estimated to cause 23% of newborn deaths worldwide and it is the most common acquired cause of cerebral palsy in the U.S. The time window for effective interventions in HIE generally is several hours before to several hours after injury (‘secondary prevention’). Lutein, a phytoneutrient (carotenoid) abundant in colosumo and breast milk, is important in brain and eye development and function. The objective of this study is to establish if lutein can confer pre- and post-natal neuroprotection using an established rat model of neonatal hypoxic-ischemic brain injury.

Materials and Methods: An interventional trial utilized the established Vannucci newborn rat model of unilateral carotid ligation and hypoxia. Dams were fed a lutein-rich diet (200 μmol daily) or non-lutein containing standard rat chow throughout pregnancy and during lactation. On P7, pups were subjected to left common carotid artery ligation followed by hypoxia (8% oxygen for 2.5 hours). Pups also received lutein or sham intraperitoneal injections on P7-10. Brain tissues were analyzed by whole mount staining (H&E, cresyl violet) and by combinations of histochemistry, immunoblot, and RT-PCR profiling for markers of hypoxic/ischemic injury, apoptosis, and neuroinflammation.

Results: Hypoxia inducible factor-1 alpha (HIF-1α), cleaved caspase 3, and microglia/inflammatory markers were suppressed/ altered in the lutein vs control brain tissue. Hypoxia-inducible, apoptotic, and inflammatory targeted gene expression were suppressed in the lutein-supplemented rat brain tissue (PCR). In this model, whole brain slices (without special stains) do not show consultations and results analyzed.

Results: In the month of November 2015, 10 out of 56 patients requiring psychiatric consultation were referred to the ER because of suicide attempt. Consultations were performed on the same day they were requested in all but one case. Suicide attempts were more often older above age of 50 years and male. The rate of suicide attempters among Hispanic people was 50%, compared to 40% in non-Hispanic. Suicide attempters were more frequent among patients with a history of psychiatric disorders. Analysis found that being married was protective and unemployment was risk factor. Whether a subject lived with family, alone or was homeless was not a factor nor was educational level.

Conclusion: A better understanding of patients referring to the ER due to attempted suicide may allow the identification of attrisk subjects and the implementation of targeted treatment approaches.

Psychiatric Consultation Referrals and Suicide Attempts at a Tertiary Care Teaching Hospital on the U.S./Mexico Border

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Introduction: The aim of the study is to examine psychiatric consultations over one year and investigate how frequently patients visiting a hospital emergency room require psychiatric consultation for attempted suicide, and to outline the characteristics of this population.

Materials and Methods: This prospective study will examine all emergency room patients who are referred for adult psychiatric consultation from September 1, 2015 to September 1, 2016 at University Medical Center, a tertiary care teaching hospital on Texas/Mexico border. The study population will consist of all emergency room patients who are referred for psychiatric consultation over the period of one year. Routinely collected data such as date/time of referral, date of initial (first contact) psychiatric consultation, initial reason for referral, age, gender, race, ethnicity, history of substance abuse (yes/no), history of psychiatric diagnosis (yes/no), history of sexual abuse (yes/no) and psychiatric consultation recommendations will be extracted from completed