Academic Abstracts

Smoking is Associated with Increased Risk of Binge Drinking in a Young Adult Hispanic Population at the U.S.-Mexico Border

Robert Woolard, M.D.

Introduction: Excessive alcohol use accounts for an estimated average of 80,000 deaths and 2.3 million years of potential life lost in the United States, and an estimated $223.5 billion in economic costs each year. Research has shown when Hispanics drink alcohol they consume more alcohol per drinking day as well as higher risk for binge drinking. Use of alcohol at a young age correlates strongly with early smoking and drug use. Among young Hispanic students as well as young adults cigarettes are often first used followed by alcohol use.

Materials and Methods: Primary data was collected from young adults ages 18-30 of Mexican ancestry who were screened for alcohol problems during a randomized controlled trial of a brief intervention for alcohol, conducted at the University Medical Center of El Paso in collaboration with Texas Tech University Health Sciences Center Department of Emergency Medicine. Each participant completed a 5-10 minute interview which included a 16 item general health questionnaire. As part of that trial, patients were screened in the Emergency Department by trained and employed research associates, between the hours of 1:00 p.m. to 10:00 p.m. on 500 days, including weekends and holidays from November, 2010 thru April, 2012. 2162 participants provided answers to all smoking and drinking related questions. All available data were used in Univariate and multiple variable analyses. The association between smoking and binge drinking was measured using logistic regression models. The measures of association were presented as Odds Ratios (OR) and 95% confidence intervals (95% CI).

Results: 37% of the study participants reported binge drinking, 38% were “at risk” alcohol users (above NIAAA guidelines and 22% were RAPS positive (indicating potential for alcohol use disorder). Smoking was reported by 31%, marijuana use by 16%, and other drug use by 9%. Multiple variable models revealed that smoking was the strongest factor predicting binge drinking. Those who smoked were 3.1 (p<0.0001) times more likely to binge drink. Other factors independently associated with binge drinking were age 22-25 year old (OR=1.5, p=0.003), male gender (OR=1.5, p=0.0001), and ED visit for injury (OR=1.4, p=0.007).

Recurrent Stroke, Seizures and Neurologic Deficits in a Five Year-old Male

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Introduction: MELAS syndrome results from mitochondrial DNA mutations that lead to dysfunctions in the mitochondrial respiratory chain. As a consequence, organs with a high metabolic demand are mostly affected. MELAS typically presents with seizures and headaches. Here we present a patient that posed a diagnostic challenge – initially presenting with weakness and lethargy that later became a full-blown stroke picture, leading to a full neurologic, hematologic and later genetic workup.

Case Report: The patient is a 6 y/o male that presented to our ED with fever and AGE symptoms. He had several visits over a period of one week during which symptoms would get better with hydration. He eventually had mental status changes for which he was admitted, and later developed focal signs. MRI showed an ischemic picture and this set off workup and management by Cardiology, Neurology, Interventional Radio and Hematology. Workups for thrombus or embolus were negative and the clue to the diagnosis came in a positive mitochondrial DNA mutation for MELAS. He was started on antiepileptics and sent to a specialty center for arginine infusion. Conclusions: In summary, MELAS is a multi-system disorder that may have a nonspecific presentation. MELAS should be prominent in the differentials of recurrent stroke-like episodes and/or seizures without an obvious cause in children. Unlike in adults, genetic conditions like MELAS are important considerations for stroke in the pediatric population. Early diagnosis through suggested protocols is essential to initiate supportive therapy and delay progression.

Impact of Mood State on Memory Performance in Hispanic Patients with Bipolar Disorder


Continued on page 18
Introduction: Neurocognitive dysfunction has been reported in individuals with bipolar disorder (BP), including deficits in verbal learning and memory, attention and executive functioning, and processing speed. Bipolar disorder is a mood disorder characterized by episodes of depression, mania, and often psychosis. Various types of memory are affected predominantly in one mood state when compared to others in BP subjects. Examining cognitive measures of memory will provide researchers with a better understanding of the etiology of BP. The aim of this study is to determine whether measurable values of mood states (Depression, Mania, Psychosis) from the Schedule for Affective Disorders and Schizophrenia (SADS-C) correlate with measurable values of memory from the South Texas Assessment of Neurocognition (ie, verbal, working, and spatial memory).

Materials and Methods: 323 participants were recruited from the United States (Los Angeles, El Paso, and San Antonio), Mexico (Mexico City and Monterrey), Guatemala, and Costa Rica in which participants were assessed for mood (SADS-C) and neuropsychological performance (STAN). Memory was assessed by the California Verbal Learning test (CVLT) and CVLT delay, Letter Fluency, Digit Span, Penn Facial Memory and Spatial Capacity Delayed Response (SCAP) tests. We hypothesize that depressed mood will have a negative impact on memory performance as compared to the manic or psychosis scores based on multiple regression analysis.

Results: Analysis in progress.

Conclusions: Prospective findings will assess whether memory correlates with mood state and determine what type of memory is predominantly affected in each mood state.

Barriers to Breastfeeding on the Border

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Introduction: In El Paso breastfeeding rates are lower than in the rest of the U.S. Acculturation, low socioeconomic status, limited support, and breastfeeding knowledge may play a role in mother’s decision to breastfeed. The purpose of this study is to identify barriers to breastfeeding in El Paso, Texas.

Materials and Methods: Cross-sectional observational study of healthy post-partum mothers of healthy infants. Participants completed Spanish or English questionnaires about socio-demographics, acculturation degree, general health behaviors, and breastfeeding intention, practice, and knowledge.

Results: 152 mothers answered the questionnaire (91 completed it). 95% of mothers were Hispanic, 74% were born in Mexico. Average maternal age was 26 years old, 70% of mothers were primigravid, and 78% had a vaginal delivery. Most pregnant mothers (95%) planned to breastfeed. Most mothers (98%) knew that breast milk is nutritionally superior to formula and optimal for mother and infant. Multiple logistic regression showed that mothers intending to breastfeed while pregnant were 4.58 as likely to breastfeed after birth (p=0.0096) than mothers not planning to breastfeed. However, after birth, 96% of mothers fed formula (36% immediately after birth) in addition to breastfeeding.

Conclusions: In our study intention to breastfeed in pregnancy failed to translate into exclusive breastfeeding after birth contradicting prior studies’ results that education and support suffice for increasing breastfeeding rates. Our study highlights the widespread practice of “las dos cosas” (feeding breastmilk and formula) among Hispanic, mostly Mexican-American, women.

Transient Elevated J-Point: A Rare Electrocardiographic Presentation in Heroin Overdose

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Introduction: Brugada syndrome is a group of genetic disorders with distinct electrocardiographic (ECG) pattern, which may lead to malignant arrhythmias and sudden cardiac death. Another growing entity is Brugada-like ECG pattern in individuals without true congenital Brugada syndrome. This entity is recently called as “Brugada phenocopy”.

Case Presentation: We report a case of 44 year old man with no known past medical history who presented with loss of consciousness. Patient was found to have positive toxicology screen for opiates and high serum alcohol level. His initial ECG showed normal sinus rhythm, rightward axis, and coved type down-sloping ST-segment elevation in leads V1 and V2 as well as elevated J-point in V3 consistent with Brugada type 1 pattern (Figure 1). Patient regained his consciousness after treatment with continuous Naloxone infusion and remained clinically stable throughout hospital observation period. Following improvement of his level of consciousness, he disclosed heroin abuse and drinking alcohol. Patient denied any prior history of syncope, or any family history of syncope or sudden death. Serial ECG demonstrated improvement of ST elevation in V1 and V2 and decrease in J-point elevation in leads V1 and V3 (Figure 2).

Figure 1: ECG on admission showing characteristic changes of Brugada type 1 ECG pattern.
Conclusions: The present case highlights the heroin overdose as a possible cause of Brugada phenotype which might be linked to associated sudden cardiac death.

Trends in Television Tip-over Pediatric Injuries

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Introduction: The US Safety Commission documents a significant trend in television related injuries resulting (349 deaths / 2000-2011). Modern day flat screen televisions were introduced in the mid-1990s and are now more affordable making them a standard household television. There is an upward trend in serious preventable injuries in children incidents resulting in TBI and mortality.

Methods: We conducted a chart review of trauma patients <14 yrs that were admitted for television related injuries (1/1996-12/2013). The data reviewed demographics, trauma activation level, injury type, ISS, GCS status (adm), LOS and mortality.

Results: Thirty-seven patients were identified, ranging from 1-7 years of age (mean age: 2.7). Eighty-six percent of injuries occurred in the 1-4 year-old age range. Fifty-one percent were male. Eighty-one percent were Hispanic.

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Forty-nine percent met Level I trauma activation status based on anatomic and/or physiologic criteria. The mean ISS was 11 (range: 1-35). Mean hospital LOS was 2.9 days (range: 1-16) and 1/3 spent time in the ICU. Mean GCS was 12.3 (range: 3-15). Eighty-one percent sustained TBI. Mortality was 13.5%, with all five deaths attributed to devastating TBI.

Conclusion: Television tip-over injuries are an evolving trend. Young children, especially ages 1-4, are most susceptible to serious injury, TBI or death. This study demonstrates the need for prevention initiatives including: safety presentations to parents or

new mothers in the community, counseling at pediatric wellness visits, as well as encouraging the industry to provide television anchoring or mounting devices at the point of sale.

Increased Levels of MIPs Result in Resistance to M-tropic HIV-1 in Two Elite Controllers

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Introduction: Elite controllers (ECs) are a rare group of HIV seropositive patients who are able to control viral replication without antiretroviral therapy (ART). However, the mechanisms behind this phenotype have not been fully elucidated.

Materials and Methods: In this study, we examine cellular resistance to HIV in a cohort of ECs.

Results: We demonstrate that a subset of ECs in the cohort possess CD4+ T cells that are resistant to macrophage (M)-tropic replication-deficient HIV, while remaining fully susceptible to T-tropic and VSV-G-pseudotyped viruses. This effect was preserved with a different HIV backbone, and with a dose range of HIV virus. RNA-Seq analysis was performed to identify transcriptional signatures associated with the resistant phenotype. 21 genes were differentially regulated between the ECs and healthy controls. Among these genes, CCL3 and CCL3L1 stood out as they both encode MIP-1 α. The MIP-1 α, MIP-1 β and RANTES chemokines are natural ligands of CCR5 and are known to interfere with HIV replication. For two ECs, we observed increased production of MIP-1 α and MIP-1 β at the protein level. EC CD4+ T cell supernatant containing increased levels of MIP-1 α and MIP-1 β was sufficient to confer M-tropic HIV resistance to CD4+ T cells from healthy donors, and neutralizing antibodies against MIP-1 α and MIP-1 β reversed this effect.

Conclusions: These results suggest that the T cells of these particular ECs may be naturally resistant to HIV by blocking M-tropic viral entry.
Diagnosing Autism Spectrum Disorders and other Developmental Delays: A Study on Screening Techniques, Socio- economics, and Race

Crystal Roe, B.S.; Blanca Garcia, M.D.

Introduction: Autism and Autism Spectrum Disorders (ASDs) and other developmental delays may be mitigated if identified and treated early.

Materials and Methods: This retrospective chart review of pediatric patients in the Texas Tech Health Sciences system in El Paso, TX was aimed at finding out which screening test (and at what age) is the most predictive of a developmental issue. We also tried to determine whether ASDs and other developmental delays are associated with race or other socioeconomic markers.

Results: Prevalence of any developmental abnormality was 21% with the most noted within the Ages and Stages Questionnaire (or ASQ) at 48 months, within Caucasians, and within military families. The Kappa coefficient for agreement between the Modified checklist for Autism in Toddlers (or MCHAT) at 18 months and the ASQ at 18 months was 0.06. Fisher’s exact test between insurance type and abnormal results was p = 0.08.

Conclusions: Our conclusions are limited due to sample size restrictions. Perhaps we can reliably conclude that is no agreement there between the ASQ and the MCHAT at eighteen months. Interestingly, the largest percentage (25%) of abnormal results was noted among military families indicating that perhaps the military environment may somehow contribute to an increased prevalence of developmental anomalies. This should be considered a pilot study for further research on a very important topic.

Hispanic Patients Perspectives of the Physician’s Role in Obesity Management

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Introduction: To curb the nation’s obesity epidemic, knowing what patients want could increase physician guided weight loss, especially among Hispanics, an ethnicity plagued by obesity. The purpose of this study is to describe attitudes of Hispanic patients toward weight loss, understand their prior experiences with their physicians, and understand their beliefs about the physician’s role and how he/she can help them to lose weight.

Materials and Methods: A cross-sectional study utilizing semi-structured interviews was conducted in a University-based Family Medicine Clinic. Open-ended questions explored beliefs about the relationship between weight and health, previous weight loss experience, perceptions about the role of the physician in weight loss, past experiences with their physician, and preferences for how a physician could help facilitate weight loss. The free recall listing technique was used to elicit responses. Common themes were identified by a group coding process. Twenty interviews were conducted and achieved saturation of themes.

Results & Conclusions: Hispanic patients in the sample know they need to lose weight and have tried but failed in the past. They are open to discussion from physicians concerning weight loss but many have not been approached. They want assistance from their doctors in the form of dietician referrals, specific weight loss goals, and encouragement. Knowledge about the implications of excess weight on health was lacking. We plan to design a larger more representative survey and use this information to inform clinic-based weight loss interventions targeting Hispanics.

Use of Cadaver Biopsies in an Integrated Curriculum

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Introduction: As part of the curricular integration central to medical education at the Paul L. Foster School of Medicine, Tank Side Grand Rounds were expanded to include acquisition of cadaveric biopsy specimens and histologic evaluation with a pathology faculty member in a small-group setting.

Materials and Methods: Anatomical dissections were carried out by medical students under the supervision of anatomy faculty members. The pathologic findings were reviewed with a pathology faculty member and, when appropriate, tissue biopsies were obtained. Histology hematoxylin and eosin microscopic sections were prepared and then reviewed and discussed with the anatomy groups by a pathology faculty member with anatomy faculty in attendance. Participating students were subsequently sent surveys regarding their opinions of the learning exercise.

Results: We conducted a small-group learning exercise with two groups of anatomy students. A total of seven out of eight students completed the survey. Student responses were positive. For example, one student felt it provided, “integration of skills learned in class and application to the real world.”

Conclusions: The use of histologic review of cadaver biopsies in a small-group setting was well received by the students. Based on our initial experience, it is expected that this will be beneficial to student learning and will further contribute to the integrated curriculum at PLFSOM.