

Oral Presentation

Abstract Title:	Genetic factors that influence Neonatal Opioid Withdrawal Syndrome (NOWS) in a WV cohort
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Abstract:	In 2017, 13% of neonates born in WV were opioid exposed in utero. A third of these patients had NOWS, characterized by central, autonomic and enteric nervous system dysfunction. Mild NOWS is treated by therapeutic handling, while more severe NOWS is treated with opioids. To date, predicting the risk of NOWS and the long term consequences is not possible. In adults, genetic variation within opioid signaling pathways predicts addiction and withdrawal; limited target gene studies in the NOWS population show similar trends. We hypothesize that NOWS severity is in part due to variants in genes involved in the metabolism of, and response to, opioids, and in genes related to brain development. In this study we recruited patients from MU and WVU MAT pregnancy programs and compared the genetic profiles of maternal-neonate dyads based on the need to treat NOWS pharmacologically. In our study population, 38% of the neonates required pharmacological interventions to treat their NOWS and had a significantly longer length of stay (45 +/- 15 days compared to 7 +/- 3 days, p<0.05 Students t test). Analysis indicated 49 maternal and 36 neonatal genetic variants significantly associated with NOWS. In the maternal variants, we identified gene polymorphisms linked to anxiety and depression which increased the risk of NOWS. This includes a polymorphism in NPSR1, which has previously been linked to somatization of anxiety. It is thus possible that NOWS is linked to an exaggerated maternal response to stress, anxiety, and addiction, promoting neonate somatic symptoms in NOWS.
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Oral Presentation

Abstract Title: **Improved Survival Following Transarterial Radioembolization of Infiltrative-appearance Hepatocellular Carcinoma**

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Abstract: Purpose: Infiltrative-appearance hepatocellular carcinoma (IHCC) presents a distinct challenge to clinicians as evidence-based treatment guidelines have yet to be established. While transarterial radioembolization (TARE) has shown efficacy in HCC, many studies exclude IHCC in their analysis. The purpose of this study was to evaluate the whether TARE of IHCC improves survival. Methods: With IRB approval, patients with IHCC were identified. Patient were divided into two groups: TARE versus systemic therapy/palliative care. Demographics, date of diagnosis, date of expiry, albumin, international normalized ratio, sodium, alpha-fetoprotein, creatinine, Child-Pugh class, model for end-stage liver disease score, and bilirubin were collected. Patients with bilirubin >3 were excluded. Mann-Whitney U test and Fisher's exact test assessed for differences between groups. Kaplan-Meier survival analysis and Cox proportional hazard analysis were performed. Results: Forty-one were identified patients, 10 underwent TARE while the remaining 31 served as control. Mean age was 62, 30 patients were male. The mean overall survival of the TARE treatment group was 16.6 months (506 days) and mean overall survival of the control group was 5.7 months (170 days) (Log-rank $p < 0.004$), with a combined overall survival of 8.5 months (259 days). Cox proportional regression analysis revealed statistically significant associations between survival and albumin (hazard ratio 0.12, 0.032-0.41, $p < 0.001$), Child-Pugh class B (hazard ratio 0.25, 0.064-0.941, $p < 0.041$), and sorafenib therapy (hazard ratio 0.246, 0.071 – 0.847, $p < 0.026$). Conclusions: Transarterial radioembolization for patients with IHCC improves in life expectancy compared to a control group treated with comfort measures or systemic therapy.

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Oral Presentation

Abstract Title: **Pathologic Associations of Potentially Inappropriate Medication Use in Patients with Alzheimer's Disease**

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Abstract: Background: Potentially inappropriate medication use (PIM) is associated with significant morbidity related to adverse drug reactions and accounts for significant healthcare costs in aging populations. It is unclear whether PIM is additive and/or contributory to the development of Alzheimer's disease (AD) pathology. This study was undertaken to further our understanding of the interplay between PIM and neurodegenerative disease outcomes confirmed at autopsy. Methods: To identify PIM, we developed an algorithm based on the 2015 Beers Criteria. We used this algorithm to identify PIM with medications that act on the central nervous system (PIM-Neuro). We investigated the association between PIM-Neuro and neuropathological outcomes in patients with neuropathologically-confirmed AD from the UK Alzheimer's Disease Center Cohort. Results: Analyzed patients (n=103) ranged in age of death from 58 to 102 years, with a mean of 84.2 (SD 9.1 years). In addition, patients had an average education of 15.6±3.4 years and 50% were female. Patients with neuropathologically-confirmed AD who used ≥2 PIM-Neuro medications had significantly higher Braak scores for neurofibrillary degeneration compared to patients with ≤1 PIM-Neuro medications (4.93±1.3 vs 4.14±1.7, p= 0.028). Those who used ≥2 PIM-Neuro medications also had significantly higher CERAD neuritic plaque scores compared to those who used ≤1 PIM-Neuro medications (2.48±0.9 vs 2.03±1.1, p=0.023). Conclusions: The data demonstrate an association between PIM and AD neuropathology. Our findings question whether or not PIM-Neuro use may exacerbate the underlying pathologic processes responsible for AD. Further studies examining specific classes of medications in relation to their impact on neuropathological outcome are warranted.

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Oral Presentation

Abstract Title: **Lex Ed: Comprehensive Sexuality Education Policy**

Author(s): K. P. Mark, Department of Kinesiology & Health Promotion, U of Kentucky C. Ziliak, Lafayette High School, Lexington, KY

Abstract: Prior research very clearly supports comprehensive sexuality education over abstinence only or abstinence until marriage programs due to its efficacy in decreasing STI and unintended pregnancy rates. Further, comprehensive sexuality education addresses sexual harassment, consent, and sexual and gender diversity; it is developmentally appropriate and medically accurate. Despite 93% of parents supporting comprehensive sexuality education in schools, it is inconsistently offered and rarely implemented in Kentucky. Lex Ed was created to advocate for policy change in comprehensive sexuality education in Fayette County, Kentucky. Lex Ed is a coalition of organizations and individuals working to advance comprehensive sexuality education guidelines for all Fayette County Public Schools. Lex Ed collected signatures from over 3,000 concerned citizens in Fayette County, worked to attend school board meetings and appeal to board members, and quickly realized that a top-down approach was ineffective. We have since shifted focus to working from the bottom up, successfully getting comprehensive sexuality education integrated into the approved curriculum. Additionally, preliminary data were collected from 811 Kentucky high school students asking what they would like to see in their sexuality education. Some of their thoughts included: "I think students need to formally learn about sexual harassment, dating violence/abuse, and assault." and "Unbiased! Non-religious! Sex! Education! Destigmatizing sex can help decrease shame and taboo surrounding it and helps safeguard students. If we're more educated we're less likely to lash out." This presentation will outline our work with Lex Ed, the preliminary data collected from the students themselves, and the pathway forward to making effective policy change in comprehensive sexuality education in Kentucky.

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Oral Presentation

Abstract Title: **Increasing the Value of Community-Based Diabetes Screening**

Author(s): P.L. Spradling, Chronic Disease Management Division, Big Sandy Health Care, Inc.

Abstract: Objective: To evaluate diabetes screening supported by the Big Sandy Diabetes Coalition. Introduction: While organizations are able to reach a large number of people at health fairs, there has been much discussion about the efficacy of providing screening tests during these events. The Big Sandy Diabetes Coalition has provided diabetes screening using A1c testing at health community events since 2015. Between May 2016 and May 2018, the Big Sandy Diabetes Coalition screened nearly 1,700 people at community events held in a five-county region of eastern Kentucky. Although screening data was collected during these events, no follow up was provided to participants who had an A1c above normal range. Methodology: The coalition used Community Health Workers who are trained to provide A1c testing at community events. These CHWs were trained to obtain participant consent, collect participant data using standardized forms, conduct A1c screening, provide education and connect patients to resources including DPP, diabetes education, primary care providers and health insurance. Follow-up is provided for all patients who have an A1c above normal range. Results: Since May, 2018, the Coalition has screened 410 adults at 15 community events. 136 participants (33.1%) had an A1c result in the pre-diabetes range. 86 (20.97%) participants had an A1c in the diabetes range. (51, (12.4%) participants with a high A1c reported having no primary care provider, and 29 (7%) participants with a high A1c reported having no health insurance. To date, follow-up has been provided for 72% of patients who had an A1c above normal range.

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Oral Presentation

Abstract Title: Family Medicine clinician interviews to assess the influence of tailored interventions on prediabetes clinical decision-making

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Abstract: The National Diabetes Prevention Program (DPP) effectively prevents the progression from prediabetes to diabetes, yet its utilization remains low. A mixed-methods study evaluated practice interventions tailored to increase UK primary care referrals to the Barnstable Brown DPP. The intervention components included educational presentations and materials, lists of next-day appointments with prediabetic patients, a physician champion, and an electronic referral to the DPP. To understand their utility, we interviewed 11 clinicians using chart-stimulated recall, a technique asking clinicians to reflect on their medical decision-making using documentation from recent patient encounters. Responses were transcribed and independently analyzed by two coders for major themes. Specifically, we explored how patient characteristics and clinician perspectives influenced practices related to prediabetes screening, diagnosis, management, and DPP referral. Interviewees also completed Likert-scale survey questions about how each of the interventions changed their prediabetes care. Considerations influencing DPP referral were patients' perceived motivation, age, comorbidities, access to resources, and the presence of a modifiable risk factor. Clinicians generally agreed that there was a champion for prediabetes care but disagreed about the extent to which it positively changed their practices. Similarly, their answers differed on how useful were the interventions that provided education, prediabetic patient lists, and having access to point of care A1C devices. However, they all agreed that the implementation of an electronic DPP referral process was helpful and most believed that their prediabetes management improved in the past year. Interview feedback will be used to modify future interventions.

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