



RESEARCH
EDUCATION
TREATMENT
ADVOCACY

(128) Likely linkage: genetic variations in the mesolimbic dopamine system and elevated risk of opioid abuse in chronic pain patients

B Arthur; Proove Biosciences Inc., Temecula, CA

Chronic pain patients taking narcotic pain medications were evaluated for the prevalence of genotypes linked with neurochemical deficiencies. They were genotyped using proprietary Proove Narcotic Risk Using Applied Biosystems RealTime PCR TaqMan assay on DRD1-48A>G, DRD2 A1 allele, DRD4-521C/T, DAT1 Ddel, COMT Val158Met, OPRK1 36G>T, OPRM1 A1 18G, DBH-1021C/T, 5-HT2A-1438G/A, 5-HTTLPR, GABA 1519T>C and MTHFR C677T. Subjects were chronic pain patients taking Rx narcotics (n=100). Statistical significance was found in the prevalence of DRD4-521C/T [79% v 29%] (p<0.001), DAT1 Ddel [68% v 55%] (p<0.05), COMT Val158met [74% v 47%] (p<0.001), OPRK1 36G>T [16% v 3%] (p<0.05) and OPRM1 A1 18G [17% v 47%] (p<0.01). The prevalence of genetic predisposition to substance abuse among chronic pain patients taking prescription narcotic pain medications provides information to prescribers that may improve therapeutic decisions to avoid treatment failures and addiction. This study was supported by Proove Biosciences Inc.

(129) Pain assessment and treatment decisions among students in the United States and Jordan

C Torres, L Wandner, A Alqudah, A Hirsh, B Lok, and M Robinson; University of Florida, Gainesville, FL

Studies conducted in the United States have found that patients' sex, race and age influence the pain assessment and treatment decisions of laypeople, healthcare trainees, and healthcare professionals. There have been few studies that have examined whether a person's nationality affects their use of demographic cues in making pain decisions. This study compares the pain assessment and treatment decisions of undergraduate students in the United States and Jordan. Virtual human (VH) technology was used to examine the pain assessment and treatment decisions of American and Jordanian participants. Seventy-five American and 104 Jordanian undergraduate students viewed 16 VH-patient profiles varying in sex, race and age. Participants read clinical vignettes describing the patients' low back pain condition. For each patient, participants made pain assessment and treatment decisions regarding pain intensity, negative mood, and recommendations for medical help. The results indicated that both American and Jordanian participants assessed VH-patients who were female and old to be experiencing higher pain intensity and greater negative mood than male and young VHs, respectively. Similarly, participants were more likely to recommend medical help for female and old VHs. Jordanian participants rated pain intensity, negative mood, and likelihood of recommending medical help higher for all patient demographic groups than did the American participants. The age differences (young<old) were more pronounced for American than for Jordanian participants across ratings of pain intensity, negative mood, and recommending medical help. This is the first cross-national and cross-cultural study that compares pain decisions among undergraduate students. The results of the study suggest that sex, race and age cues are used in pain assessment and treatment in both American and Jordanian nationalities. However, several differences emerged between the samples suggestive of culture influences on sex, race and age expectations about pain. Additional research is needed to determine the cultural determinants of these differences.

(130) Phantom organ pain: a myth or a clinical entity

C Roldan and D Nguyen; University of Texas, Houston, TX

Phantom organ pain syndrome occurs presumably due to injury to the visceral sensory nerves innervating the missing organ. The pain has been attributed to deafferentation due to surgical trauma to the incision site, to deep somatic nerves, to mononeuropathy, or to the possibility of phantom organ pain syndrome. We present a case of a man with chronic left flank pain and pyelonephritis despite ongoing therapy with antibiotics and hydrocodone. Ultimately, a left-sided nephrectomy was performed which resolved his chronic infection but did not minimize his chronic flank pain. Postsurgical imaging included a negative MRI, CT, and ultrasound of his abdomen and pelvis. To determine an optimal treatment plan for our case patient, a literature search for "phantom organ," "phantom pain," and "phantom limb" was undertaken. The following medical databases were used: PubMed, Cochrane Library, MD Consult, Ovid, Google and Google Scholar, Medscape, and UpToDate. Over 100 articles written in English were reviewed, and a total of 36 articles were determined to be clinically relevant to our patient. Only 3 of the 36 aforementioned articles discussed phantom organ pain directly, but no specific treatment for phantom organ pain was described. Multiple treatment options for phantom pain in general were discussed in the reviewed articles. Pharmacologic treatment agents included NSAIDs, narcotics, NMDA antagonists, GABA analogs, anticonvulsants, antidepressants, and muscle relaxants. Interventional treatments included nerve blocks, neurolysis, sympathectomy, spinal cord stimulators, deep brain stimulators, TENS units, and even cortical brain resection. Other significant treatments included rehabilitation and physical therapy, mirror therapy, electromyographic and thermal biofeedback, acupuncture, psychological treatments, and hypnosis. Our case patient was started on low-dose gabapentin and currently very well controlled without narcotics on Gabapentin 600 mg TID and supportive psychotherapy. More research in the field of phantom organ and phantom limb pain is needed to treat this complex disease process.

(131) Positive predictive value of Carnett's sign in differential diagnosis of chronic abdominal pain: a retrospective cohort study

H Wang and S Gross; University of Pittsburgh Medical Center, Pittsburgh, PA

Chronic abdominal pain, either originates from abdominal wall (somatic pain) or intra-abdominal cavity (visceral pain), may become a debilitating clinical condition. It is important clinically to differentiate between these two distinctive origins as the treatment strategies can be different. In acute abdominal pain, Carnett's sign has been established as a simple but useful physical examination for differential diagnosis. A positive Carnett's sign suggests likely abdominal wall pain and a negative sign suggests likely visceral pain. However, chronic abdominal pain is much different from acute abdominal pain in many aspects, therefore the clinical value of Carnett's sign in chronic abdominal pain remains to be elucidated. In this retrospective cohort study, we have identified over fifty patients between 2011 and 2012, whom have been treated for abdominal pain in our pain clinic. We have compared the final diagnoses (abdominal wall pain vs. visceral pain) with the initial physical examination findings, and analyzed the positive predictive value of Carnett's sign. We believe this study will help us to better understand and approach chronic abdominal pain.