

The Journal of Pain

Table of Contents

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Critical Review

1069

Statins: Do They Aggravate or Ameliorate Neuropathic Pain?

Shrutya Bhalla, Nirmal Singh, and Amteshwar Singh Jaggi

This Critical Review article considers the dual role of statins in neuropathic pain. Many preclinical studies discuss the neuropathic pain–attenuating effects of statins, but most clinical research discusses the neuropathic pain–inducing effects of statins. This article also discusses the mechanisms behind the dual roles of statins in neuropathic pain and deduces that these mechanisms may provide a novel topic to research the dual effects of statins on pain.

Original Reports

1081

Chronic Pain Prevalence and Associated Factors in a Segment of the Population of São Paulo City

Dayane Maia Costa Cabral, Eduardo Sawaya Botelho Bracher, Jidiene Dylese Prescatan Depintor, and José Eluf-Neto

A cross-sectional epidemiologic survey was performed to determine the prevalence of chronic pain and to identify associated factors in a random sample of a segment of the population of São Paulo City, Brazil. Findings show that chronic pain is highly prevalent in the city of São Paulo and has a considerable impact on health-related quality of life. Demographic, socioeconomic, and psychological factors are independently associated with this condition. These factors were female gender, age 30 years or older, 4 or fewer years of education, symptoms consistent with anxiety, and intense physical strain.

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ON THE COVER

Emerging evidence shows that chronic musculoskeletal pain is associated with anatomic and functional abnormalities in gray matter. However, little research has investigated the relationship between chronic musculoskeletal pain and white matter. In this study, the authors used whole-brain tract-based spatial statistics and region-of-interest analyses of diffusion tensor imaging data to demonstrate that patients with chronic musculoskeletal pain exhibit several abnormal metrics of white matter integrity, compared with healthy controls. See Lieberman et al, page 1110.

1092

Validation of a Brief Opioid Compliance Checklist for Patients With Chronic Pain

Robert N. Jamison, Marc O. Martel, Robert R. Edwards, Jing Qian, Kerry Anne Sheehan, and Edgar L. Ross

There has been a need for a brief assessment tool to determine compliance with use of prescribed opioids for pain. The purpose of this study was to develop and begin the validation of a brief and simple compliance checklist (the Opioid Compliance Checklist) for chronic pain patients who are prescribed long-term opioid therapy. This measure asks patients about aberrant drug-related behavior over the past month, and any positive response indicates problems with adherence with opioids. Further cross-validation testing is needed.

1102

Opioid Selective Antinociception Following Microinjection Into the Periaqueductal Gray of the Rat

Michael M. Morgan, Rachel A. Reid, Thomas M. Stormann, and Nathan J. Lautermilch

Five of the most commonly used opioids to treat pain are morphine, fentanyl, oxycodone, methadone, and buprenorphine. All of these drugs produce analgesia by binding to mu-opioid receptors, but they vary with regard to efficacy and the receptor domain to which they bind. This study demonstrates that the periaqueductal gray contributes to the antinociceptive effects of these opioids. Such functional selectivity in periaqueductal gray-mediated opioid antinociception helps explain why the analgesic profile of opioids is so variable.

1110

White Matter Involvement in Chronic Musculoskeletal Pain

Gregory Lieberman, Marina Shpaner, Richard Watts, Trevor Andrews, Christopher G. Filippi, Marcia Davis, and Magdalena R. Naylor

Emerging evidence shows that chronic musculoskeletal pain is associated with anatomic and functional abnormalities in gray matter. However, little research has investigated the relationship between chronic musculoskeletal pain and white matter. In this study, the authors used whole-brain tract-based spatial statistics and region-of-interest analyses of diffusion tensor imaging data to demonstrate that patients with chronic musculoskeletal pain exhibit several abnormal metrics of white matter integrity compared with healthy controls.

1120

Competing Goals Attenuate Avoidance Behavior in the Context of Pain

Nathalie Claes, Kai Karos, Ann Meulders, Geert Crombez, and Johan W. S. Vlaeyen

Current fear-avoidance models consider pain-related fear as a crucial factor in the development of chronic pain. However, pain-related fear often occurs in a context of multiple, competing goals. This research provides experimental evidence that both pain and competing goals impact on behavioral decision making and avoidance behavior. These results provide experimental support for treatments of chronic pain that include an individual's pursuit of valuable daily life goals, rather than limiting focus to pain reduction only.

1130

Guideline-Concordant Management of Opioid Therapy Among Human Immunodeficiency Virus (HIV)-Infected and Uninfected Veterans

Julie R. Gaither, Joseph L. Goulet, William C. Becker, Stephen Crystal, E. Jennifer Edelman, Kirsha Gordon, Robert D. Kerns, David Rimland, Melissa Skanderson, Daniel F. Weisberg, Amy C. Justice, and David A. Fiellin

Prescription opioids, once largely reserved for the treatment of severe acute pain and end-of-life cancer pain, are now routinely used by primary care physicians for the treatment of moderate to severe chronic noncancer pain. Partly in response, the American Pain Society, the American Academy of Pain Medicine, and the Department of Veterans Affairs have published guidelines and consensus statements to assist clinicians. The authors report that guideline-concordant care is rare in primary care, varies by patient/provider characteristics, and has undergone few changes over time. Over a 10-year period, on average, patients received no more than 40% of recommended care.

1141

Using Virtual Human Technology to Provide Immediate Feedback About Participants' Use of Demographic Cues and Knowledge of Their Cue Use

Laura D. Wandner, Janelle E. Letzen, Calia A. Torres, Benjamin Lok, and Michael E. Robinson

Self-reports of pain remain the gold standard for pain assessment. However, clinicians and laypeople often rely on their own judgments to make pain management decisions. Research has shown that health care providers have stereotypes or biases based on a patient's demographic characteristics that influence their pain management decisions. This is the first study to make individuals aware of whether sex, race, or age factors influence their decision-making. Most participants who used such cues indicated willingness to participate in an online intervention, suggesting this technology's utility for modifying biases.

1148

Barriers to Guideline-Concordant Opioid Management in Primary Care—A Qualitative Study

Erin E. Krebs, Alicia A. Bergman, Jessica M. Coffing, Steffanie R. Campbell, Richard M. Frankel, and Marianne S. Matthias

Prior studies have demonstrated poor physician adherence to opioid management guidelines in primary care. This study sought to understand physicians' and patients' perspectives on recommended practices and to identify potential barriers to and facilitators of guideline-concordant opioid management in primary care. This work identified 3 barriers to recommended use and 1 facilitator of recommended use. The authors hypothesize that future interventions to improve opioid management will be more effective if they address barriers and use a patient-centered framework, in which prevention of opioid-related harm to patients is emphasized as the primary goal.

1156

An Experimental Approach to Examining Psychological Contributions to Multisite Musculoskeletal Pain

Nils Georg Niederstrasser, P. Maxwell Slepian, Tzipora Mankovsky-Arnold, Christian Larivière, Johan W. Vlaeyen, and Michael J. L. Sullivan

This report examined the prospective value of pain catastrophizing, fear of pain, and depression in the prediction of multisite musculoskeletal pain following experimentally induced delayed-onset muscle soreness. Analyses revealed that pain catastrophizing and fear of pain predicted the experience of multisite pain. There was no significant relation between depressive symptoms and multisite pain. The discussion addresses the mechanisms contributing to the spread of pain. Clinical implications of the findings are also addressed.

1166

When Pain Meets... Pain-Related Choice Behavior and Pain Perception in Different Goal Conflict Situations

Martien G. S. Schrooten, Katja Wiech, and Johan W. S. Vlaeyen

Individuals in pain often face the choice between avoiding pain and pursuing other equally valued goals. However, little is known about pain-related choice behavior and pain perception in goal conflict situations. The results of this study suggest that associations between choice behaviors, pain perception, and affect depend on conflict situation. Better understanding of pain-related goal conflicts and their resolution may lead to more effective pain treatment, the authors conclude.

1179

Exercise-Induced Hypoalgesia Profile in Rats Predicts Neuropathic Pain Intensity Induced by Sciatic Nerve Constriction Injury

Junad Khan, Vanessa Benavent, Olga A. Korczeniewska, Rafael Benoliel, and Eli Eliav

The aim of this study was to investigate the predictive value of exercise-induced hypoalgesia (EIH) on pain intensity induced by nerve injury in a rat model. EIH was tested by evaluating the percentage of withdrawal responses to mechanical stimuli on the hind paw before and after 180 seconds of exercise on a rotating rod. EIH profile was found to be predictive of pain severity following nerve injury. It may suggest that selected patients with faulty pain modulation are at risk for developing chronic pain following injury or surgical procedures. EIH may represent a preoperative means to detect this predisposition and enable proactive management.

1190

Analysis of Meaningful Conditioned Pain Modulation Effect in a Pain-Free Adult Population

David Locke, William Gibson, Penny Moss, Kylie Munyard, Cyril Mamotte, and Anthony Wright

Conditioned pain modulation (CPM) encompasses the effects of inhibitory and facilitatory pain modulatory systems and is inefficient in some chronic pain states. This study proposes a method for calculating meaningful CPM effect and reports the proportion and magnitude of effect elicited in a large sample. Associations between CPM, gender, and genotype were also analyzed. Clarification of normal CPM response may help to elucidate the mechanisms driving CPM inefficiency in chronic pain.

Letters to the Editor

1199

Multidimensional Approach to Classifying Chronic Pain Conditions—Less Is More

Alexandre Annes Henriques, Jairo A. Dussán-Sarria, Leonardo M. Botelho, and Wolnei Caumo

1201

The ACTION-APS Pain Taxonomy Initiative: Response to Henriques et al

Roger B. Fillingim, Robert H. Dworkin, and Dennis C. Turk

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