Who and When Should We Screen? Assessing the Need for Psychological Support in Patients With Sports Injuries in the Setting of An Orthopedic Surgery Outpatient Clinic

Abstract ID# 22971
All Authors:
Maria Virginia Velasquez-Hammerle MD UNITED STATES
Peter Asais MD UNITED STATES
Miho J. Tanaka MD, PhD UNITED STATES
Varun Nukala B.S UNITED STATES
Julia Flora NA UNITED STATES
Ashwin N. Babu MD UNITED STATES
Eric Matthew Berkson MD UNITED STATES
Haylee Borgstrom MD UNITED STATES
Kelly McInnis DO UNITED STATES
Sean Hazzard PA UNITED STATES
Richard Ginsburg PhD UNITED STATES

Summary:
A history of surgery for a sports injury as well as increased levels of pain were the two main factors associated with the presence of anxiety in patients in a Sports Medicine Outpatient Clinic

Data:
Introduction: Recovery from a sports injury entails several factors that play an important role in a patient’s outcome. Significant association has been shown between psychological factors and recovery time, patient satisfaction, pain control and return to sport. However, the ideal target population for psychological services has not been defined. This study aims to describe patients and their characteristics who have psychological distress following a sports injury. Methods: The GAD-7 Anxiety Score Questionnaire, a validated questionnaire to detect psychological distress, was distributed among outpatients in a Sports Medicine Clinic. Patient demographics as well as information on the type of injury, level of sport, timeline in recovery, and history of surgery were obtained. All ages and genders were included. Using a GAD score of 10 as an indicator of psychological distress, descriptive statistics were used to present the characteristics of the population who met these criteria. Chi squared test was performed to compare the rates of psychological distress as an indicator of psychological distress, descriptive statistics were used to

Category: Sports Medicine

The Influence of Industry Affiliation on PRP Randomized Controlled Trials

Abstract ID# 21394
All Authors:
Ganhehi Ta MD UNITED STATES
Rajiv Siddhartha Vasudevan BS UNITED STATES
Brendon Mitchell MD UNITED STATES
Robert Keller MD UNITED STATES
William Kent MD UNITED STATES

Summary:
The results of this study suggest that qualitative conclusions and outcome scores were found to not be associated with industry affiliation in randomized controlled trials with PRP.

Data:
Purpose Industry funding and corporate sponsorship have played a significant role in the advancement of medical research and technology. However, this relationship raises concerns of how industry association may bias research findings and influence perception of results. As novel therapies continue to emerge, it is necessary to evaluate the literature for reliable and evidence-based clinical research before implementing these therapies into practice. The purpose of this study was to determine whether industry affiliation plays a role in the outcome of randomized controlled trial (RCT) studies investigating platelet-rich plasma (PRP) versus hyaluronic acid (HA), corticosteroids (CS), or placebo for knee osteoarthritis (OA). Methods A search of the PubMed, Cochrane, and MEDLINE databases for RCTs of Level 1 or 2 evidence published from 2011 to present comparing PRP versus HA, CS or placebo for the treatment of knee OA was performed by two independent reviewers. To determine industry affiliation, the conflicts of interest, funding and disclosure segments of publications were assessed and all authors were reviewed through the AAOS Disclosure and Open Payments databases. Industry affiliation by financial conflicts of interest were identified as license or royalty fees, paid consultant fees, advisory position or speaker, employee, stock options, or research funding from companies that synthesize PRP or manufacture devices to administer PRP. Studies were classified as industry affiliated (IA) or non-industry affiliated (NIA). The outcomes of each study were rated as favorable, analogous, or unfavorable according to predefined criteria based on previously published protocols and also statistical significance by comparing patient reported outcome measures. Favorable studies showed superior results, analogous studies demonstrated no significant difference, and unfavorable studies had inferior outcomes when comparing PRP to HA, CS or placebo. Results A total of 37 (6 IA and 31 NIA) studies were available for analysis. All studies were of level 1 (67.6%) or level 2 (32.4%) evidence, with no statistically significant difference between IA and NIA studies (p = 0.4443). Nineteen (51.4%) studies reported PRP as favorable compared to other treatments, while 18 (48.6%) studies showed no significant differences between PRP and other treatments. No studies showed worse outcomes with PRP compared to HA, CS, or placebo. There was no significant difference in qualitative conclusions between the IA and NIA cohorts, with the IA cohort having 3 favorable studies and 3 analogous studies, while the NIA group included 16 favorable studies and 15 analogous studies (p = 0.8881). When comparing IA versus NIA studies, using 6 and 12-month WOMAC and IKDC scores, there were no significant differences in outcome measures. Conclusion The results of this study demonstrate largely favorable and analogous results with PRP compared to other intra-articular injection therapies for knee OA in randomized controlled trial studies. Qualitative conclusions and outcome scores were found to not be associated with industry affiliation. Although the results of this study suggest there is no influence of industry association on RCTs involving PRP, it is still necessary to carefully evaluate pertinent corporate affiliations in published literature.

Category: Sports Medicine

Multimodal Opioid-Sparing Postoperative Pain Protocol Versus Standard of Care for Patients Undergoing Knee and Shoulder Arthroscopy: A Randomized Controlled Trial

Abstract ID# 22149
All Authors:
Olufemi R. Ayeni MD, PhD, MSc, FRCSC CANADA

Summary:
Based on the results obtained, there is a significant increase in reports of anxiety among patients with higher levels of pain and a history of surgery associated with their injury. There was a trend towards significance for association between GAD-7 and postoperative time. A history of surgery for a sports injury as well as increased levels of pain were the two main factors associated with the presence of anxiety in patients in a Sports Medicine Outpatient Clinic. Establishing a screening process for patients with high levels of pain or in the setting of their postoperative visits in order to assess the need for psychological support might be beneficial to their wellbeing and recovery outcomes.
Summary:
Among patients who underwent arthroscopic knee or shoulder surgery, a multimodal opioid-sparing postoperative pain management protocol, compared to standard opioid prescribing, significantly reduced postoperative opioid consumption over 6 weeks.

Purpose: To evaluate the impact of a multi-modal, opioid-sparing approach to postoperative pain management compared to the current standard of care in patients undergoing arthroscopic shoulder and knee surgery. Methods: This randomized controlled trial was performed at 3 clinical sites from March 2021 to April 2022. Adult patients undergoing outpatient arthroscopic shoulder or knee surgery were followed to 6 weeks postoperatively. The opioid-sparing group (100 participants randomized) received a prescription of 1) naproxen, acetaminophen and pantoprazole, 2) a limited “rescue prescription” of hydro-morphine, and 3) a patient education infographic. The control group (100 participants randomized) received the current standard of care as per the treating surgeon, which consisted of an opioid analgesic. The primary outcome was postoperative oral morphine equivalent (OME) consumption at 6 weeks postoperatively. There were seven secondary outcomes, including pain at 2 and 6 weeks postoperatively, patient satisfaction at 6 weeks postoperatively, opioid refills at 6 weeks postoperatively, quantity of OMEs prescribed at 6 weeks postoperatively, adverse events at 6 weeks postoperatively and patient reported medication adverse effects at 2 weeks postoperatively. Results: Among the 200 patients who were randomized (mean age, 45; 73 (38%) females), 193 (97%) of patients completed the trial. Of these 193 patients, 98 were randomized to receive the standard of care and 95 received the opioid-sparing protocol. Patients in the opioid-sparing protocol consumed significantly fewer opioids (median 0mg; IQR: 0.0-8.0) than patients in the control group (median: 40.0; IQR: 7.5-105.0; Z = -6.55, P < .001). Of the 6 prespecified secondary endpoints, 5 showed no significant difference. The mean amount of OMEs prescribed was 341.17mg, 95% CI: 310.2-372.1 in the standard of care group and 40.4mg; 95% CI: 39.6-41.2 in the opioid sparing group (MD 300.8mg; 95% CI: 269.4-332.3; P < .001). There were significantly more patients reported medication-related adverse effects in the standard of care group (32% vs. 19%, P = .048). Conclusion: Among patients who underwent arthroscopic knee or shoulder surgery, a multimodal opioid-sparing postoperative pain management protocol, compared to standard opioid prescribing, significantly reduced postoperative opioid consumption over 6 weeks.

Category: Sports Medicine

Do More Platelets in the Peripheral Blood Mean More Growth Factors in Platelet-Rich Plasma?

Abstract ID# 23186
All Authors:
Pawel Reichert Prof POLAND
Maciej Dejnek MD POLAND
Helena Moreira PhD POLAND
Sylwia Placzewska PhD POLAND
Aleksandra Krolikowska Prof. POLAND

Summary:
The content of platelets and WBC in whole blood strongly correlates with their content in PRP, and thus with a higher content of some of the growth factors: TGF-β1 (free active), EGF, FGF-basic, VEGF, HGF, PDGF-AA, PDGF-BB. Complete whole blood count analysis before PRP treatment may be helpful in making decision about its use.

Data:
Title Do more platelets in the peripheral blood mean more growth factors in platelet-rich plasma? Background The justification behind platelet-rich plasma (PRP) injections in sports injuries is related to the high content of growth factors released locally from platelets a-granules. These molecules, involved in natural healing processes, are expected to accelerate tissue regeneration and recovery of athletes. The wide range of platelet counts in healthy blood, a variety of preparation protocols, and administration techniques may be among the causes of inconsistent results in PRP treatment. The study aimed to assess the relationship between the content of cellular components in the whole blood and PRP samples and their correlation with the content of growth factors. Material and Methods A blood sample was taken from 43 subjects aged 24 to 60, and PRP was prepared using the Mini GPS III Platelet Concentration System (Biomet Inc., USA). Complete blood count was evaluated in both whole blood and PRP samples. Multiplex bead immunassays and flow cytometer measurements were used for seven growth factors assessment in PRP: Transforming growth factor-β1 (TGF-β1, free active), Epidermal growth factor (EGF), Fibroblast growth factor-basic (FGF-basic), Vascular endothelial growth factor (VEGF), Hepatocyte growth factor (HGF), Platelet-derived growth factor-AA (PDGF-AA), and Platelet-derived growth factor-BB (PDGF-BB). Statistical analysis was performed, searching for correlations between the cellular components of whole blood/PRP and the content of selected growth factors. Results The complete blood count analysis shows a wide range of the content of platelets (PLT 133 – 419,109/μL), white blood cells (WBC 4.06 – 9.82,109/μL), and red blood cells (RBC 3.93 – 5.82,1012/μL). In plasma, the PLT concentration increased 4.5 times (from 249.67 ± 58.51 to 1119.81 ± 443.07), the WBC concentration increased 4.75 times (from 6.57 ± 1.37 to 31.24 ± 10.09), the RBC concentration decreased 4 times (from 4.89