2023 Congress Abstracts: Shoulder Other

The Use Of Intravenous Tranexamic Acid Does Not Improve Arthroscopic Visualization In Shoulder Surgery: A Randomized Controlled Trial

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Summary:
Intravenous administration of TXA is not an effective alternative to epinephrine in the irrigation fluid to improve visualization during routine arthroscopic shoulder surgeries although its application is safe. There is no additional improvement in visualization when TXA is used in combination with epinephrine beyond the effect of epinephrine alone.

Data:
Purpose: Adequate visual clarity is paramount to performing arthroscopic shoulder surgery safely, efficiently, and effectively. The addition of epinephrine in irrigation fluid and the intravenous or local administration of tranexamic acid (TXA) have independently been reported to decrease bleeding thereby improving the surgeon’s visualization during arthroscopic shoulder procedures. No study has compared the effect of systemic administered TXA, epinephrine added in the irrigation fluid, or the combination of both TXA and epinephrine on visual clarity during shoulder arthroscopy with a placebo group. The purpose of this study is to determine if intravenous TXA is an effective alternative to epinephrine delivered by a pressure-controlled pump in improving arthroscopic shoulder visualization during arthroscopic procedures and whether using both TXA and epinephrine together has an additive effect in improving visualization. Method: The design of the study was a double-blinded, randomized controlled trial with four 1:1:1:1 parallel groups conducted at one center. Patients aged ≥18 years undergoing arthroscopic shoulder procedures including rotator cuff repair, arthroscopic biceps tenoscopy/tenodesis, distal clavicle excision, subacromial decompression, and labral repair by five fellowship-trained upper extremity surgeons were randomized into one of four arms: Pressure pump-controlled regular saline irrigation fluid (control), epinephrine (1ml of 1:1000) mixed in irrigation fluid (EPI), 1g intravenous TXA (TXA), and epinephrine and TXA (EPI/TXA). Visualization was rated on a 4-point Likert scale every 15 minutes with 0 indicating ‘poor’ quality and 3 indicating ‘excellent’ quality. The primary outcome measure was the unweighted mean of these ratings. Secondary outcomes included mean arterial blood pressure (MAP), surgery duration, surgery complexity, and adverse events within the first postoperative week. Unweighted means (SD) were calculated for visualization and mean arterial pressure (MAP) for each patient. Study group allocation was represented with epinephrine and tranexamic acid being coded in dichotomous variables (used or not used) for each patient. A step-wise linear regression was performed using visualization as the dependent variable and a series of independent variables considered for inclusion: epinephrine, tranexamic acid, surgery duration, complexity, mean arterial pressure, increase in pump pressure, and volume of irrigation fluid. All statistical tests were considered significant if p<0.05. Results: One hundred and twenty-eight participants with a mean age (± SD) of 56 (± 11) years were randomized. Mean visualization quality for the control, TXA, EPI, and EPI/TXA groups were 2.1 (±0.40), 2.1 (±0.52), 2.6 (±0.37), 2.6 (±0.35), respectively. In a regression model with visual quality as the dependent variable, the presence/absence of EPI was the most significant predictor of visualization quality (R²=0.525; p<0.001). TXA presence/absence had no effect, and there was no interaction between TXA and EPI. The addition of MAP and surgery duration strengthened the model (R²=0.529; p<0.001). Increased MAP and surgery duration were both associated with decreased visualization quality. When surgery duration was controlled, surgery complexity was not a significant predictor of visualization quality. No adverse events were related to any of the groups. Conclusion: Intravenous administration of TXA is not an effective alternative to epinephrine in the irrigation fluid to improve visualization during routine arthroscopic shoulder surgeries although its application is safe. There is no additional improvement in visualization when TXA is used in combination with epinephrine beyond the effect of epinephrine alone.

Category: Shoulder - Other

The Suprascapular Nerve Arthroscopic Anterior and Endoscopic Posterior Release in Elite Volleyball Players

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Summary:
arthroscopy to address intra-articular pathology along with simultaneous arthroscopic suprascapular nerve release in the spino- glenoid and/or suprascapular notch can effectively and safely prevent irreversible muscle wasting which occurs in advanced suprascapular nerve entrapment in volleyball players and has been associated with patients’ high levels of satisfaction.

Data:
Introduction: Volleyball predisposes athletes in suprascapular nerve (SSN) entrapment and shoulder injuries and vice versa, due to extreme shoulder range of movement (ROM) during hitting. SSN entrapment occurs with a frequency 12-30%, but it is often misdiagnosed. Delayed diagnosis results in poor therapeutic outcomes, while athletes experience persistent shoulder pain and dysfunction. Aim of the study was to underline the importance of early diagnosis and surgical intervention of SSN entrapment in volleyball players with simultaneous shoulder overuse syndrome and injuries, where arthroscopic release plays an important role in appropriate treatment and recovery. Material and Methods: Professional and elite volleyball players with intra-articular pathology (lateral and rotator cuff injuries) and concomitant entrapment of the SSN were included in our study. All patients were treated arthroscopically from January 2005 to May 2022. Diagnosis was made based on clinical examination, X-rays, nerve conduction studies, electromyography (EMG) studies and magnetic resonance imaging (MRI) arthrography. Clinical outcomes were assessed using the pain management VAS score and evaluation of ROM. Results: Forty volleyball players (8 females, 32 males) were included in the study, with mean age 26 (range:16-34) years. Conspicuous atrophy of the supraspinatus and/or infraspinatus was noticed. All patients underwent an arthroscopic procedure for treating their main injury and during the procedure SSN release was performed. Definite diagnosis was made intra-operatively. Partial thickness tear...