

The Risk of Bleeding in Knee or Shoulder Injections in Patients on Warfarin Treatment

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Abstract : Background: Intraarticular steroid injections are an effective option in alleviating the symptoms of conditions like osteoarthritis, rheumatoid arthritis, crystal arthropathy, and rotator cuff tendinopathy. Most of these injections are conducted in the elderly who are on polypharmacy, including anticoagulants at times. Up to 6% of patients aged 80-84 years have been reported to be taking Warfarin. The literature availability on safety quotient for patients undergoing intraarticular injections on Warfarin is scarce. It has remained debatable over the years which approach is safe for these patients. Continuing warfarin has a theoretical bleeding risk, and stopping it can lead to even severe life-threatening thromboembolic events in high-risk patients. Objectives: To evaluate the risk of bleeding complications in patients on warfarin undergoing intraarticular injections or arthrocentesis. Study Design & Methods: A literature search of MEDLINE (1946 to present), EMBASE (1974 to present), and Cochrane CENTRAL (1988 to present) databases were conducted using any combination of the keywords, Injection, Knee, Shoulder, Joint, Intraarticular, arthrocentesis, Warfarin, and Anticoagulation in November 2020 for articles published in any language with no publication year limit. The study inclusion criteria included reporting on the rate of bleeding complications following injection of the knee or shoulder in patients on warfarin treatment. Randomized control trials and prospective and retrospective study designs were included. An electronic standardized Performa for data extraction was made. The Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) the methodology was used. The articles were appraised using the methodological index for nonrandomized studies. The Cochrane Risk of Bias Tool used to assess the risk of bias in included RCTs and the MINORS tool for assessment of bias in observational studies. Results: The search of databases resulted in a total of 852 articles. Relevant articles as per the inclusion criteria were shortlisted, 7 articles deemed suitable to be include. A total of 1033 joints sample size was undertaken with specified knee and shoulder joints of a total of 820. Only 6 joints had bleeding complications, 5 early bleeding at the time of injection or aspiration, and one late bleeding complication with INR of 5, additionally, 2 patients complained of bruising, 3 of pain, and 1 managed for infection. Conclusions: The results of the metanalysis show that it is relatively safe to perform intraarticular injections in patients on Warfarin regardless of the INR range.

Keywords : arthrocentesis, warfarin, bleeding, injection

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