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Author Reply to "The Dangers and Concerns of Intra-articular Tranexamic Acid" and "Regarding 'Intra-articular Injection of Tranexamic Acid Reduced Postoperative Hemarthrosis in Arthroscopic Anterior Cruciate Ligament Reconstruction: A Prospective Randomized Study'"

It has been our privilege to receive feedback on our study from researchers from around the world. Thus, we have the opportunity to discuss the topic in more depth.

In Dr. Siegel's letter, he raised concerns about the effect of tranexamic acid (TXA) on articular cartilage in terms of safety. Indeed, a number of studies have shown that a higher concentration of TXA might have a detrimental effect on animal[1] or human[2] chondrocytes. However, as we know, there is always a gap between in vitro studies and the real clinical scenario. First, the cell culture conditions in these studies might not truly reflect the surrounding cartilage tissue in a postoperative knee joint, such as the complete absence of any drug clearance and tissue distribution in these in vitro or ex vivo experimental models. Second, a post-arthroscopic knee may be filled with some irrigation fluid and hemarthrosis, which might further lower the true concentration of TXA. Parker et al.[2] showed that TXA had no effect on the glycosaminoglycan content of human articular chondrocyte—laden hydrogels after 6 hours of exposure (with concentrations up to 40 mg/mL). Siegel also mentioned the study by McLean et al.,[3] who found that after exposure to 10% TXA for 16 hours, there was a 96% rate of cellular death of tendon and 66% rate of cellular death of synovium. However, these negative clinical effects have never been reported in patients receiving arthroplasty or spine surgery. Therefore, the conditions in these experiments might far exceed any protocols realistically encountered in clinical applications. We believed that the optimal dosage of topical TXA still needed to be clarified. In addition, the long-term effect of TXA on human articular cartilage remained unknown.

Another issue is the cost of TXA. The cost of 10 mL of TXA (100 mg/mL) is approximately $30 to $40 in Taiwan. Therefore, we believed that the cost/performance of TXA was acceptable in this clinical application.

In their letter, Gobbi et al. raised concerns about using drain output as the method chosen to evaluate blood loss. They pointed out that a 24-mL output reduction, although statistically significant, might not appear to be clinically significant. In previous literature, TXA was shown to exert its beneficial effects not only by reducing blood loss but also through its anti-inflammatory effects, which might improve analgesia, promoting early rehabilitation in total knee arthroplasty patients.[4] This might explain the significantly lowered visual analog scale score in our patients. In our study, patients without the use of TXA might have had an average 80 mL of drain output on the first day.[5] In the study by Karaaslan et al.,[6] patients might have had 150 mL of hemarthrosis after anterior cruciate ligament reconstruction if TXA was not used. We believed that this amount of hemarthrosis might cause, in some patients, discomfort and functional disability. Therefore, we still routinely use intra-articular drainage on the first postoperative day.

Besides, patients are always admitted for anterior cruciate ligament reconstruction procedures in Taiwan because of the national insurance policy. Therefore, during the admission, recording drain output in the early postoperative period is relatively simple and convenient.

Another question mentioned by Gobbi et al. relates to potential tamponade and clot formation in the drain. Our control-group patients also had the drain clamped for 2 hours; therefore, the tamponade effect was the same in both groups. In our patients, we did not find the drains plugged by clots. Hence, clot formation might not be as evident as expected.

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Regarding "Midterm Outcomes Following Repair of Capsulotomy Versus Nonrepair in Patients Undergoing Hip Arthroscopy for Femoroacetabular Impingement With Labral Repair"

I read the study by Bolia et al.[1] with great interest. As the annual number of hip arthroscopy procedures performed is increasing, there is a clear need for studies investigating outcomes of this procedure. Because the technique itself is still evolving, it is important to investigate surgery-related factors to optimize the outcome of this procedure. One controversial issue is the management of capsulotomy performed during the surgery.[2,3] Although the hip joint is an inherently stable joint, there is emerging concern about the effect of capsulotomy on postoperative stability of hip joint, especially if the capsulotomy is left unrepaired.[4] Capsulotomy resulting from a violation of ligamentous structures is suggested to result in long-term deterioration in hip function ultimately requiring a conversion to a total hip arthroplasty (THA).[5] Current evidence for this is conflicting and the exact pathomechanism of this process is poorly established but is under extensive investigation.

Bolia et al. sought to examine the conversion rate to THA in patients having undergone a repair of capsulotomy compared with those without a repair. Their study was a case-control study in which 42 patients without a repair were matched to 84 patients with a repair. The authors reported that 6 of 42 patients (14%) without a repair and 3 of 84 (4%) patients with repair were converted to a THA. This result was accompanied by a *P* value of .01. This result was further communicated as "Patients in the nonrepair group were 6.8 times (95% confidence interval, 1.2-52) more likely to require THA than patients in the repair group."

I have 2 concerns regarding their main outcome result. First, expression of "times more likely" is a probabilistic statement that is inadequate in case-control studies. Second, and most important, the authors do not report any test to handle this binary data in the Methods section.

Using Fisher's 2-sided exact test, the associated *P* value is .059. Chi-square test with and without Yates