Joint Diseases and Related Surgery

Jt Dis Relat Surg
2023;34(1):1-2

EDITORIAL

Is periarticular injection superior to intraarticular injection to reduce postoperative pain following total knee arthroplasty?

O. Şahap Atik, MD[1], Laszlo Rudolf Hangody, MD, PhD[2], Sualp Turan, MD[3], Fatih İlker Can, MD[4], Özlem Orhan, MD[5]

[1]President, Turkish Joint Diseases Foundation, Ankara, Türkiye
[2]Department of Orthopedics and Trauma, Uzsoki Hospital, Budapest, Hungary
[3]Department of Orthopedics and Traumatology, University of Health Sciences Ankara City Hospital, Ankara, Türkiye
[4]Department of Orthopedics and Traumatology, Muğla Sıtkı Koçman University Training and Research Hospital, Muğla, Türkiye
[5]Department of Orthopedics and Traumatology, Harran University, Şanlıurfa, Türkiye

The use of intraarticular (IA) injections in the treatment of osteoarthritis (OA) has gained wide popularity in recent years. The relatively low cost, rapid and simple method of pain relief are its main advantages.[1] However, the majority of the articles have reported insufficient sample size with a varying follow-up period, resulting in difficulty in formulating and implementing clinical recommendations. Therefore, the true extent of the benefits of IA injections is still being debated.

One of the most significant achievements in orthopedic surgery in the 20th century was the introduction and further development of total knee arthroplasty (TKA) in the treatment of OA.[2] The main goals after TKA are to reduce the postoperative pain, to diminish the transfusion need, and to ensure the ability for early ambulation.[3,4]

Despite the literature support for local infiltration analgesia (LIA) use following TKA, the most optimal location for injection of the analgesic cocktail intraarticular (IA) versus periarticular (PA) versus combined IA+1PA is still unclear.[5] Mortazavi et al.[5] concluded that PA was associated with less postoperative pain and greater active knee flexion compared to the other two analgesic options following TKA.

Perret et al.[6] demonstrated that PA injection following TKA showed a statistically significant reduction in postoperative Visual Analog Scale pain scores with a trend in that group toward reduced overall opioid use. Cheng et al.[7] concluded that PA injection was superior for pain relief and improved range of motion over IA injection following TKA. Therefore, the authors recommended the administration technique of PA injection while performing LIA after TKA. In a recent meta-analysis, strong evidence supports the use of a PA injection with a long-acting local anesthetic to reduce postoperative pain and opioid consumption following TKA. Addition of a corticosteroid and/or ketorolac to a long-acting local anesthetic further reduces postoperative pain, thereby possibly reducing opioid consumption.[8]

Received: August 26, 2022
Accepted: August 26, 2022
Published online: October 06, 2022

Correspondence: O. Şahap Atik, MD. Turkish Joint Diseases Foundation, Mustafa Kemal Mah., Dumlupınar Bul., 274/2, C2 Blok, Ofis 5, 06900 Çankaya, Ankara, Türkiye.
E-mail: satikmd@gmail.com

Citation: Atik OŞ, Hangody LR, Turan S, Can Fİ, Orhan Ö. Is periarticular injection superior to intraarticular injection to reduce postoperative pain following total knee arthroplasty? Jt Dis Relat Surg 2023;34(1):1-2. doi: 10.52312/jdrs.2023.57909

©2023 All right reserved by the Turkish Joint Diseases Foundation

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited and is not used for commercial purposes (http://creativecommons.org/licenses/by-nc/4.0/).

In conclusion, recent literature supports the use of a PA injection with a long-acting local anesthetic to reduce postoperative pain and opioid consumption following TKA.

REFERENCES

1. Atik OŞ, Hangody LR. Are intra-articular injections in the treatment of knee osteoarthritis effective enough? Jt Dis Relat Surg 2022;33:487-8. doi: 10.52312/jdrs.2022.57907.
2. Abonyi B, Pap K, Gal T, Vasarhelyi G, Udvarhelyi I, Hangody L. A comparison of SanatMetal Sanat Swing and Zimmer NexGen® total knee implants: 10-year postoperative follow-up results. Jt Dis Relat Surg 2021;32:10-6. doi: 10.5606/ehc.2021.76756.
3. Kopitkó C, Czermann R, Orosz M, Hangody G, Kiss D, Szabó Z, et al. A randomized comparative evaluation of local infiltration analgesia, extended nerve blocks, and conventional analgesia in pain management after total knee arthroplasty. Jt Dis Relat Surg 2021;32:290-8. doi: 10.52312/jdrs.2021.68.
4. Liu Y, Li YM, Tian P, Li ZJ, Xu GJ, Fu X. Comparison between peri-articular injection and intra-articular injection of tranexamic acid during total knee arthroplasty: A meta-analysis. Jt Dis Relat Surg 2022;33:686-94. doi: 10.52312/jdrs.2022.732.
5. Mortazavi SMJ, Vosoughi F, Yekaninejad M, Ghadimi E, Kaseb MH, Firoozabadi MA, et al. Comparison of the effect of intra-articular, periarticular, and combined injection of analgesic on pain following total knee arthroplasty: A double-blinded randomized clinical trial. JB JS Open Access 2022;7:e22.00074. doi: 10.2106/JBJS.OA.22.00074.
6. Perret M, Fletcher P, Firth L, Yates P. Comparison of patient outcomes in periarticular and intraarticular local anaesthetic infiltration techniques in total knee arthroplasty. J Orthop Surg Res 2015;10:119. doi: 10.1186/s13018-015-0249-x.
7. Cheng KY, Feng B, Peng HM, Bian YY, Zhang LJ, Han C, et al. The analgesic efficacy and safety of peri-articular injection versus intra-articular injection in one-stage bilateral total knee arthroplasty: A randomized controlled trial. BMC Anesthesiol 2020;20:2. doi: 10.1186/s12871-019-0922-4.
8. Hannon CP, Fillingham YA, Spangehl MJ, Karas V, Kamath AF, Casambre FD, et al. The efficacy and safety of periarticular injection in total joint arthroplasty: A direct meta-analysis. J Arthroplasty 2022;37:1928-38.e9. doi: 10.1016/j.arth.2022.03.045.