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Commentary

Pay attention to the evidence: in the longer term, intraarticular corticosteroid injections offer only harm for knee osteoarthritis

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SUMMARY

With respect to the long-term effects of intra-articular corticosteroid injections (IACIs) in knee osteoarthritis (OA), we are at the stage where it seems like the jury has returned a verdict but the judge hasn't yet accepted it. Supporters of IACIs for knee OA, when reading about potential and actual harms and complete lack of any benefit in the medium- or long- term, are now clutching at straws that we shouldn't even expect to observe any benefit in the longer term. Sadly, the same arguments that orthopaedic surgeons use to justify continuing with knee arthroscopy when there are only documented long-term harms and no documented long-term benefits, are being used by rheumatologists to justify continuing with IACIs for knee OA. The only actual reason to keep recommending both IACIs and knee arthroscopy (which sadly society guidelines still do) is the "status quo", with the self-affirming argument that the quality of the RCTs published to date is not (yet) high enough to justify a change in expert opinion. There is a very strong argument against preserving the status quo for knee OA: outcomes everywhere keep getting worse. Knee replacements seem to be on a steady growth curve upwards in all countries and knee OA prevalence itself is also increasing. Something is badly wrong with the status quo for knee OA: if we were getting good results with medical treatment then fewer people would be needing knee replacements, not more. A very easy place to start questioning the status quo is to read a systematic review showing worse results than all comparators for IACIs followed by an editorial saying "let's not give up on IACIs for knee OA just yet". But as mentioned you could just as easily start with an orthopaedic journal editorial saying "let's not give up on knee arthroscopy just yet" after a systematic review showing no benefit for this procedure either.

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With respect to the long-term effects of intraarticular corticosteroid injections (IACIs) in knee osteoarthritis (OA), it seems that the jury has returned a verdict[1] but the judge has not yet accepted it[2]. Given that we apparently should not even *expect* to observe any benefit in the longer term,[2] supporters of IACIs for knee OA — when reading about potential and actual harm, and the complete lack of any benefit in the medium or long term — are now clutching at straws[2]. Moreover, when a well-conducted study shows that IACIs have clearly worse results than placebo in the medium to longer term[3], their response is simply 'that's not a regime that is ever done in clinical practice'[2]. Sadly, the same arguments that orthopedic surgeons use to justify continuing with knee arthroscopy when there are no documented long-term benefits, only documented long-term harms, are being used by rheumatologists to justify continuing with IACIs for knee OA.

The only reason that both IACIs and knee arthroscopy continue to be recommended (which, sadly, society guidelines still do) is the 'status quo', with the self-affirming argument that the quality of the RCTs published to date is not (yet) high enough to justify a change in expert opinion. However, there is a very strong argument against preserving the status quo for knee OA: outcomes everywhere are getting worse. Knee replacements seem to be on a steady upward growth curve in all countries[4] and knee OA prevalence itself is also increasing[5,6].

Something is seriously wrong with the status quo for knee OA — if we were getting good results with medical treatment, then fewer people would be needing knee replacements, not more. A very easy place to begin questioning the status quo is a systematic review showing worse results than all comparators for IACIs[1], followed by an editorial saying 'let's not give up on IACIs for knee OA just yet'[2]. You could just as easily start with an orthopedic journal editorial saying 'let's not give up on knee arthroscopy just yet' following a systematic review showing no benefit for this procedure either.

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Another straw-man argument that IACI advocates rely on is to deflect to the lack of decisive evidence in favour of any alternative injection options, such as platelet rich plasma (PRP) or hyaluronan (HA) injections. However, when PRP shows better results than IACIs in the medium to longer term[7], for example, which every systematic review to date has found, basic logic dictates that there are only two possible explanations. The first is that PRP is beneficial and we should using more of it, while the second is that IACIs are harmful and we should be abandoning them. Somehow, too many experts who should know better cannot bring themselves to recommend PRP (which I concede by itself is a very reasonable position) but then also cannot bring themselves to recommend against IACIs. By all means, take the position that PRP is an elaborate placebo, but when the elaborate placebo does better than IACIs in the medium term onwards, admit that, unless someone has a life expectancy of less than 8 weeks, you should not inject them with something that does worse than placebo past the 8-week mark.

The long-term harms of IACIs are seen from multiple vantage points: lack of benefit against comparator injections[1,7]; increased risk of infection in subsequent knee arthroplasty[8]; greater progression towards knee arthroplasty[9]; greater cartilage degeneration[3]; and the aforementioned likely contribution to current overall medical treatment for knee OA being possibly more harmful than helpful.

The extremely short-term benefits of IACIs for a very chronic and long-term condition (knee OA) cannot possibly outweigh the medium-to long-term harms — i.e., worse results than placebo. The best time to have stopped using IACIs was years ago, and the second-best time to stop using them (and stop recommending them) is today.

Author contributions

Single author, invited commentary.

Conflict of interest

None.

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