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LETTER TO THE EDITOR

How Much Bone Cement Is Utilized for Component Fixation in Primary Cemented Total Knee Arthroplasty?

Dear Editor

We read with great interest the study by Satish et al.(1). We applaud the authors yet hope they can clarify some points to make their study more applicable to a wider population.

1. This study was performed with a presumed Indian population. It has been documented that Asian knees are smaller than western knees (2–4). Thus, these results may not be applicable for other populations and cannot be generalized. It would be helpful to elaborate patient demographics for patients' sizes.

2. Five different surgeons working at five different centers and using nine different brands induces a bias in interpretation of results, unless steps were taken to standardize this, in which case elaboration would be helpful. Each brand will have varying designs, requiring different amounts of cement. This needs subgroup analysis. The authors specifically excluded use of stems, bone cysts or defects. This may not be applicable among all situations of primary total knee arthroplasty (TKA).

3. What is the maximum component size that can be used with the current 40g cement-packet? Dividing sizes into small/medium/large may not help decision-making about the amount of cement used. As femoral sizes were provided, please clarify breakdown of tibial component sizes. The better way would be to divide sizes based on antero-posterior (AP) and medial-lateral (ML) dimension in 'mm' so that one brand can be extrapolated to others.

4. Please describe the cementing technique used with respect to number of packets used, timing as well as sequence of cementing of components. The results may not be valid for other cement brands.

5. Please describe use of any tourniquet or hemostatic agents.

6. Please clarify the difference in cement used for cruciate-retaining (CR) vs. posterior-stabilized (PS) designs. Providing the range of total cement used for CR vs. PS would also allow for appreciation of the true magnitude of difference.

7. Please comment on why cement used between the two extreme surgeons was almost double (28g vs 50g).

8. Is there any clinical follow-up to show that there were no failures related to cementing technique? Any comparative data/historical controls available?

9. Though we apply more cement than the authors, our experience has been reported before (5). In the last consecutive 800 cases of primary TKA using PFC-Sigma-PS (Depuy-Synthes, Warsaw, IN) with Tobramycin-premixed-Simplex-P-cement (Stryker, Mahwah, NJ) by a single surgeon (AVM) for all-comers without exclusion, we have not used the second packet in all but 10 cases. Eight of these were bigger sizes. In one case, the first packet was inadvertently dropped on the floor; in the other case, the cement set in before the patella could be cemented. We have not required the second packet until we reach a size-6-femur (74 AP, 78 ML mm) and size-6-tibia (59/89) (6). We've been able to use just one cement packet for a size-5-femur (69/73) and size-5-tibia (55/83), even with a 13x30mm stem extender and a 41-mm all-polyethylene-oval-dome-patella, and also for a combination of size-6 femur and size-5 tibia with a 41-mm patella without stem.

10. We agree with the authors that cementing technique can reduce cost, especially in the current cost-conscious environment.

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