Authors' reply

Sir,

We are deeply appreciative of the comments of Landge *et al.*,¹ regarding our article on the efficacy of tranexamic acid (TEA) in controlling blood loss in patients undergoing bilateral total knee arthroplasty (TKA).²

We agree with the fact that there are various described dosages and timings for the administration of TEA in the literature. Previous studies have demonstrated a minimum dosage of 10 mg/kg of TEA to obtain the desired antihemorrhagic effect.³ Thus, it seems reasonable to use the same dosage so as to minimize the side-effects. As the time from cementing to release of tourniquet is fairly constant and mostly dependent on the cement curing time, we felt this was a reliable time to administer the drug in all the cases. Considering that the mean duration of the effect of TEA is around 3 h, we repeated the dose after this period to prolong the effect of the drug to the first 6 h when most bleeding is expected to occur. Our study² demonstrated that two dosages of TEA were effective in controlling blood loss in concurrent bilateral TKA. Whether an additional dosage would be beneficial and at the same time cost-effective and safe to justify its use remains to be answered.

We also agree that fibrinolysis is a cascade that is easier to inhibit in its early phase. Therefore at least one dose of TEA should be given before the onset of actual bleeding following tourniquet deflation. Although prolonged stasis could potentially increase the risk of thrombosis, we did not note an increased incidence of thrombosis in the extremity operated second which had received the first dose of TEA prior to tourniquet inflation.

Topical use of TEA has been recently shown to be effective in controlling postoperative blood loss.⁴ However, this strategy is effective in a scenario where no postoperative surgical drains are used. Furthermore, the estimation of blood loss then needs to be made indirectly using postoperative hemoglobin values.

We would like to congratulate the authors for their yet to be published study in which they have used three doses of TEA in patients undergoing concurrent bilateral TKA and shown significant reduction in postoperative drain output. However, it should be remembered that the present literature regarding the dosage and schedule of TEA in knee replacement is practically limited to that for unilateral TKA and the protocols for TEA administration in bilateral concurrent TKA are still evolving. We agree that possibly some multicentric trials using a larger number of patients may be required to establish a definitive protocol for the use of TEA in TKA, with special reference to the dosage, timing and route of administration.

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