Is a nerve block of any value in the limb lengthening and deformity correction? a retrospective analysis.

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INTRODUCTION:
Pain management is of crucial importance in orthopedic surgery, especially in procedures that require a lengthy post-operative rehabilitation such as limb lengthening. With the majority of limb lengthening procedures done under GA, some surgeons elect to do a concomitant nerve block with a goal to decrease post-op pain and amount of anesthetic agents given during surgery. The purpose of our article is to examine a non-inferiority relationship between femoral lengthening under GA and limb lengthening under GA and nerve block in terms of post-op pain.
METHODS: This is a retrospective review of patients who underwent limb lengthening surgery using antegrade femoral intramedullary telescoping nails at a single center during the period between January 2012 and October 2023. We assigned a noninferiority margin of 1-SD (on an 10-point numerical rating scale) difference in PACU MME, mean pain and maximum reported pain during hospital stay and total opioid medication prescription pills after discharge, refills at home.
RESULTS:
192 met the inclusion criteria. Of these patients, 131 had standard general anesthesia without nerve block (group A) via a combination of anesthetic agents. 61 patients had general anesthesia combined with a preoperative nerve block (group B). Max pain score during admission was 3.8 ±2.3 for the no block group and 3.3 ±2.5 for the block group. Similar trends were seen for average pain during admission with average mean pain for no block was 2.1 ±1.7 and 1.9 ±2 for the block group. Difference between both groups was not statistically significant, $P>.05$. The total number of pills after discharge for no block group was 23.2 ± 35.1, and 10 ±19 for block subgroup, $P<.05$. MME during PACU admission was 26 and 18.4 for groups A and B respectively ($P<.05$). Finally, 12% (23 patients) asked for a narcotic drug refill after discharge, with 11.5% (15 patients) of group A asked for a refill and 13.3% (8 patients) of group B ($P>.05$).
DISCUSSION AND CONCLUSION: The choice of applying a nerve block should be discussed between the patient, the surgeon and the anesthesiologist with taking into consideration the results of our study. While no significant analgesic effect was demonstrated, some patients may prefer to have regional anesthesia. It is possible that the pain generated with antegrade femoral lengthening is not enough to justify administration of a block for most patients.