#669 - Clinical Study / Posters

APPLICATION OF TOURNIQUET DOES NOT INFLUENCE PATIENT REPORTED OUTCOMES OR PAIN AFTER TOTAL KNEE ARTHROPLASTY

Orthopaedics / Knee & Lower Leg / Joint Replacement - Primary

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Background
The role of the tourniquet is controversial, although tourniquets are widely used in total knee arthroplasty, due to their effectiveness in reducing blood loss. But due to lack of convincing data on patient reported outcomes (PROMS), this study aims to compare pain and functional outcomes in total knee arthroplasty patients with and without tourniquet.

Objectives
to compare pain and functional outcomes in total knee arthroplasty patients with and without tourniquet.

Study Design & Methods
A randomized controlled trial was set up at a tertiary care charity hospital that spanned from 1st February 2015 to 31st July 2018. We included all primary total knee arthroplasties performed for patients aged between 50 and 80 years. Oxford Knee Score (OKS), Numerical Pain Rating Score (NPRS), Visual Analogue Scale for satisfaction (VAS), active range of knee motion and SF-12 scores were collected pre-surgery and then at 6-weeks and 6-months interval with p-value of 0.05 considered to significant.

Results
240 patients of which 117 patients were randomized to surgery with the tourniquet inflated and 123, to surgery with the tourniquet deflated. males(43.3%) and females (56.6%) in the tourniquet inflated with an average of 62.29±9.63 years while in tourniquet deflated, 46.7% males and 53.3% females with mean age 65.41±9.042 years (p-value for age 0.404, p-value for gender 0.086). The BMI for the tourniquet group was 30.18±0.69 kg/m2 whereas for the non-tourniquet group the BMI was 30.81±2.09kg/m2 (p- value 0.103). Both the groups were evenly matched in their patient demographics. The perioperative blood loss was significantly lower ($p < 0.000$) in the tourniquet group while the duration of surgery was comparable in both groups (p-value 0.1560), see table1. Length of stay for the two groups did not differ (p-value 0.976) as mean length of stay for the tourniquet group was 6.16±2.38 days and for the non-tourniquet group was 6.18±2.34 days.
However, there were no significant differences between the two groups in terms of patient reported outcomes (PROMS) at 6-weeks and six months as shown in table 2. Of the in-hospital PROMS only NPRS score for knee pain showed significant difference p-value 0.020 (table 2).
During postoperative hospital stay, there was no significant difference among two groups in terms of visual analogue scale (vas), oxford knee score(oks), range of movements (flexion/extension), SF-12. At

the six weeks follow up, both study groups had similar outcomes in terms of range of movements and pain scores. In addition, no difference was noted among the tourniquet and non-tourniquet group even after follow-up of six months as shown in table 2.
We did not record any events of venous thromboembolism, or any complication that resulted in an unplanned admission or return to theatre. However, six patients in the tourniquet group and eight in the non-tourniquet had minor wound complications during the in-hospital period that were treated successfully with antibiotics (p-value 0.649). Whereas, both groups recorded the need for postoperative blood transfusion, 12 patients in the tourniquet group and 19 in the non the tourniquet required blood transfusion, but this was statistically insignificant p-value 0.231. In addition, 27 patients in the tourniquet group did complain of numbness during the study period as compared 10 in the non-tourniquet group (p-value 0.001).

Conclusions

conclusion, the application of tourniquet helps minimize intraoperative blood loss and results in a faster procedure. Therefore , its safe and effective