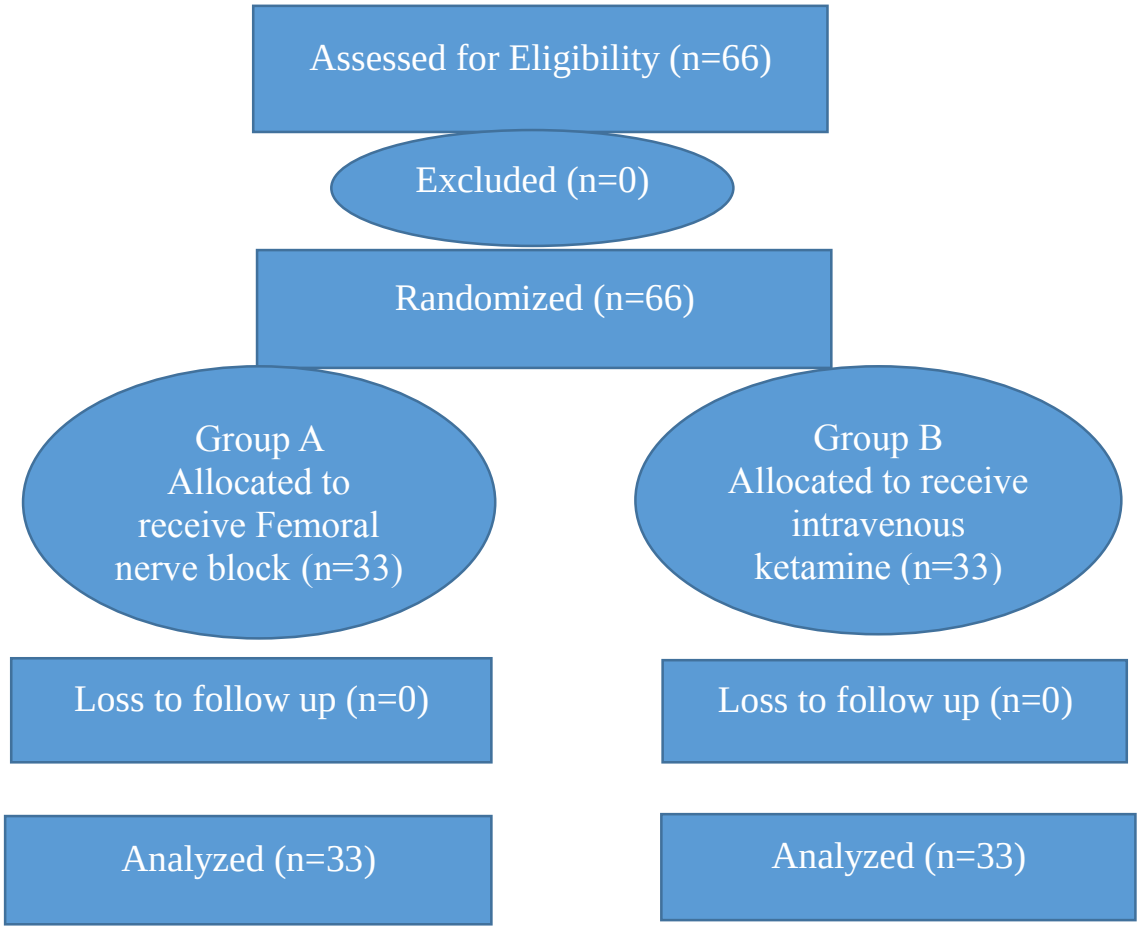

Patient flowchart of Comparative study between ultrasound guided femoral nerve block (FNB) versus intravenous ketamine in pain management for positioning before spinal anesthesia in femur fracture surgeries.

In this study we performed a randomized trial to compare between ultrasound guided femoral nerve block (FNB) versus intravenous ketamine in pain management for positioning before spinal anesthesia in femur fracture surgeries.

The comparison is regarding analgesic efficacy during positioning before spinal anesthesia and postoperative analgesic effect. Analgesic efficacy in terms of pain scores using visual analogue scale VAS score measured after 10 minutes from performing FNB and after 1 minute from injecting intravenous ketamine during positioning before spinal anesthesia in both groups. Postoperative analgesic effect was measured using visual analogue scale VAS score at regular interval (zero time at Post Anesthesia Care Unit(PACU), 1h, 2h, 4h , 10h, 16h and 24h)

postoperatively. Also, total Morphine consumption, as a rescue analgesic drug, was calculated in the first 24 hours postoperatively

Groups were comparable in demographic data (in terms of age, sex, duration of surgery, ASA and type of fracture) and there was no statistically significant difference between groups (p-value > 0.05) (table).

Demographic data		**FNB group (n=33)**	**Ketamine group (n=33)**	**T/Z/x2**	**p-value**
Age (years)		65.9 ± 3.7	66.5 ± 4.2	0.6[t]	0.55
ASA	**1** **2**	16(48.5%) 17(51.5%)	11(33.3%) 22(66.7%)	1 [x2]	0.32
Sex (Males)		15(45.5%)	18 (54.5%)	0.24[x2]	0.62
Duration of surgery		116.8 ± 10.99	115.7 ± 9.72	0.43[t]	0.67
Type of fracture	**Distal** **Neck** **shaft**	8 9 16	9 12 12	1.06 [x2]	0.59

Data expressed as mean ± SD, median (IQR), proportion.

t = student t test , Z= Mann-Whitney test, x2= Chi square, FNB=femoral nerve block

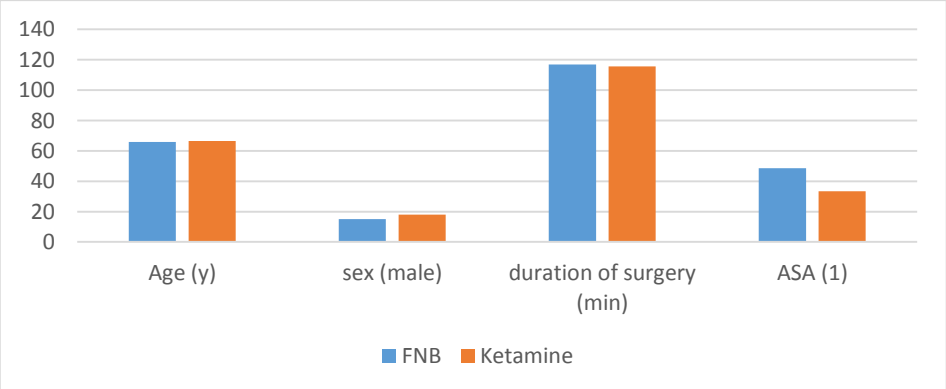

Fig. (): Bar chart between two groups regarding demographic data

We found that the FNB group as regard pain control (VAS score) during positioning before spinal anesthesia showed more analgesic effect than the intravenous ketamine group with significant difference as follows: VAS in FNB group was 1 (0-2) versus VAS in intravenous ketamine group was 2 (2-4) with a p value <0.001.

Also the two groups were compared as regard pain control post operatively. Visual analog scale (VAS) was used to assess pain post operatively and was used at regular interval (at PACU, 1hr ,2hrs, 4hrs, 10hrs, 16hrs and 24hr). The femoral group showed better pain control with significant difference at 1 and 2 hours postoperatively. At PACU and after 4 hours till 24 hours there is no statistical difference between the two groups as follows: FNB group; 0 (0-0), 1 (0-1), 2 (1-2), 3 (3-4), 4 (3-4), 4 (3-4), 4 (3-4) versus ketamine group; 0 (0-0), 3 (2-3), 3 (3-4), 4 (3-3), 3 (3-4), 4 (3-4), 4 (3-4) with a P value 1, <0.001, <0.001, 0.47, 0.5, 0. 9, 0.8.

Also, as regard to the cumulative 1st 24 hours Morphine consumption, the FNB group showed less Morphine consumption compared to the ketamine group postoperatively (3.88 ± 0.86 for FNB group versus 7.42 ± 0.79 for ketamine group with a P value of <0.001).

In conclusion, our study showed that FNB provides superior analgesia during positioning before spinal anesthesia intraoperatively, superior postoperative analgesia and less Morphine consumption than the intravenous ketamine group.