



Effect of Intrathecal Bupivacaine Lidocaine combination on Motor Block ,Analgesia Period and Side effect profile

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Background

The aging population is expected to impact ambulatory surgery upward by 53% by the year 2020.This resulted in controversy concerning which drug is best to use. Bupivacaine is proposed as an alternative to Lidocaine because of the concerns about transient neurologic symptoms(TNS) ⁽¹⁾.(self resolved acute onset of low back pain).However, Bupivacaine may have too long duration to be useful in the ambulatory setting ⁽²⁾.

Aim

Assessment of the effect of Intrathecal Bupivacaine- Lidocaine combination at different doses on the onset & recovery of anesthesia, times to retain motor ability, postoperative analgesia ,hemodynamic & neurological complications especially transient neurological symptoms

Method

Ninety patients who were scheduled for elective lower abdominal , anal or Knee arthroscopy surgery under spinal anesthesia were randomly allocated to different surgeries and into three equal groups (30 patients each) according to the type of the drug injected **Group I** (control group):(1.5mlhyperbaric 0.5% Bupivacaine + 0.6mL saline).**Group II**:(1.5mL hyperbaric 0.5 %Bupivacaine + 0.6mL 1% Lidocaine[6mg]). **Group III**: (1.5mL hyperbaric 0.5 % Bupivacaine + 0.6mL 2% Lidocaine[12mg])

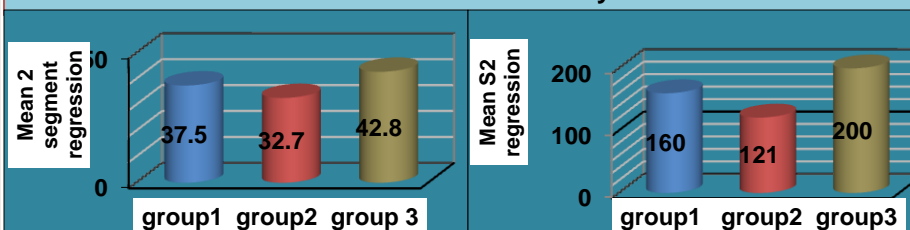
Results

The demographic characteristics of the three studied groups

Value(±SD)	Group I	Group II	Group III	P value
Age(Yr)	34.3(5.6)	34.4(2.9)	34.5(4)	0.989
Height(cm)	166.5(5.5)	165.5(5)	165.5(5)	0.702
BMI	25.6(1.4)	26.2(1.3)	26.4(2.2)	0.168
M/F(%)	17/13(56.7%)	18/12(60%)	20/10(66.7%)	0.72

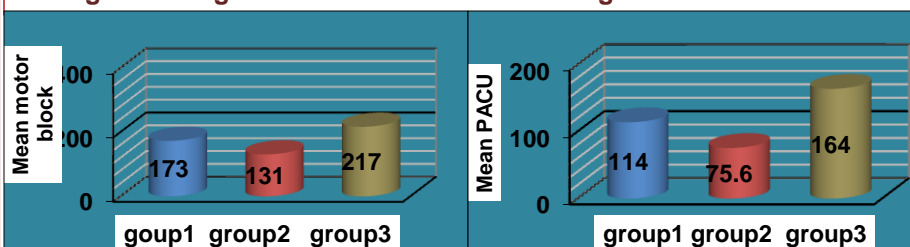
n; number of patients . M=male. F=female. BMI=body mass index. $P > 0.05$ non-significant

Difference in Characteristics of sensory and motor block



2 Segment. Regression difference

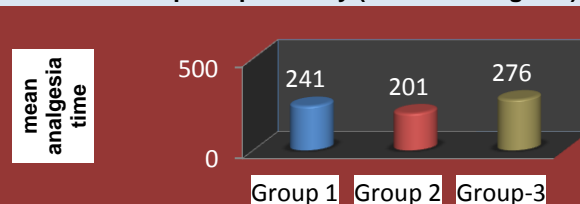
S2 Regression difference



Motor block duration difference

PACU time difference

Difference in analgesia time (the time to the first analgesic dose postoperatively (Rescue Analgesia))



Conclusion

Intrathecal (0.6mL of 1% Lidocaine mixed with 1.5mL of 0.5% hyperbaric Bupivacaine) is an excellent alternative to heavy Bupivacaine alone for ambulatory surgery as it can shorten the duration of Bupivacaine spinal block, **therefore providing more rapid recovery, stable hemodynamic together with absence of transient neurological symptoms.** **On the other hand drawback of this mixture are** that may not be effective **for inguinal hernia** but the small number form a barrier to provide precise results. It had also decreased **analgesia time** but this is together with the fact that it did not affect the total number of doses (all groups received only one dose) within the monitoring period (24 hours). On other hand, the patient satisfaction was needed to be evaluated



References

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- 2-B.David, H .Levin, et al., Spinal Bupivacaine in ambulatory surgery: the effect of saline dilution. Anesthesia & Analgesia, 1996; 83:716–20