انسیدانس سندرم نورولوژیک موقعت بعد از بی حسی اسپینال با لیدوکاین و بوبیواکاین: تأثیر نوع سندرم نورولوژیک موقعت (TNS) به‌صورت کم درد با یا درد در ناحیه بالینی. (آکوست) 

سندرم نورولوژیک موقعت (TNS) به‌صورت کم درد با یا درد در ناحیه بالینی. (آکوست) (ASA I-II) در (Supine) استفاده شده است. 

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در تحلیل عوارض نورولوژیکی با لیدوکاین بیشتر از 

بوبیواکاین بود که این با تهاب مطالعه می‌باشد.
The incidence of transient neurologic syndrome after spinal anesthesia with lidocaine or bupivacaine: The effects of needle type and surgical position: brief report

Burning Transient Neurologic Syndrome (TNS) which was first described by Schneider et al in 1993, is defined as a transient pain and dysesthesia in waist, buttocks and the lower limbs after spinal anesthesia.\(^{1,2}\) The incidence of TNS after spinal anesthesia with lidocaine is reported to be as high as 10–40%.\(^{3,4}\) This prospective study was designed to determine the incidence of TNS with two different types of drugs, lidocaine and bupivacaine, in lithotomy or supine positions as the primary outcomes and to determine the association between two different types of needles and surgical positions with the occurrence of TNS as the secondary outcome.

The present study was conducted on 250 patients (ASA I-II), aged 18–60 years old, who were candidates for surgery in supine or lithotomy positions. According to the needle type (Sprotte or Quincke) and the local anesthetic (lidocaine or bupivacaine) all patients were randomly divided into four groups. After establishing standard monitoring, spinal anesthesia was performed in all sitting patients by attending anesthesiologists at L2-L3 or L3-L4 levels. The patients were placed in supine or lithotomy position, in regards to the surgical procedure. During the first three postoperative days, patients were observed for post spinal anesthesia complications, especially TNS. Any sensation of pain, dysesthesia, paresthesia or hyperalgesia in the low back area, buttocks, the anterior or posterior thigh, knees, either foot or both feet were recorded. Moreover, duration of pain, its radiation and its relation to sleep and the patients’ position were all carefully considered. Ultimately, the patients’ response to opioid (pethidine) for analgesia was determined.

The incidence of TNS was higher when spinal anesthesia was induced with lidocaine (68% vs. 22%, P=0.003). TNS developed in 85% of the patients in lidocaine group and 58% in bupivacaine group after surgery in lithotomy position (P=0.002). In 77 patients pain was in lumbosacral area that radiated to lower limbs and was aggravated in sitting position but in 22 patients pain was in thighs with no radiation. The mean visual analogue scale (VAS) for the determination of pain severity was six in all patients. Pain was alleviated by the administration of pethidine. With regard to the needle type, there were no significant differences between the two types of needles (P=0.7).

According to the results of this prospective study, it seems that induction of spinal anesthesia by lidocaine combined with surgical lithotomy position increases the risk of TNS. Our study is in concordance with Keld’s study.\(^{5}\) Higher neurotoxicity of lidocaine in comparison with bupivacaine may justify the higher incidence of TNS in the lidocaine group. Moreover, natural lumbar lordosis is maintained better in supine position while it is lost in lithotomy position which may lay traction forces on cauda equina or other nerve roots in the lumbar area leading to neuropraxia.

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References