

## PE-72. SPINAL ANESTHESIA WITH A MIXTURE OF LIDOCAINE, BUPIVACAINE, AND FENTANYL FOR OUTPATIENT KNEE SURGERY

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**Introduction:** Spinal anesthesia remains an anesthetic option for outpatient knee surgery. Over the past decade, the technique has been utilized less frequently for outpatient surgery due to concerns about prolonged recovery of sensory, motor and bladder function, as well as the association of transient neurologic symptoms (TNS) with spinal anesthesia for outpatient knee surgery. A recent study demonstrated rapid recovery after low dose lidocaine/fentanyl spinal anesthesia with a low incidence of TNS(1). A protective effect of fentanyl may account for this low incidence. It has been suggested that bupivacaine be used in this patient population because of the rare occurrence of TNS with this agent(2,3). The present study used a subarachnoid block (SAB) protocol utilizing a mixture of lidocaine/bupivacaine/fentanyl to investigate the quality of anesthesia, subarachnoid injection to discharge time, and incidence of TNS.

**Methods and Technique:** The results of 120 spinal anesthetics for outpatient knee arthroscopy performed during 2000-2001 at a free-standing surgery center (ASC) were reviewed. The patient ages ranged from 21-80. ASA classes I-IV were represented. The majority of patients were ASA II or III. The patients either requested SAB or the technique was determined to be the most appropriate anesthetic for medical reasons (airway, obesity, co-morbidities, history of PONV). The SAB was standardized to 30-35 mg hyperbaric 5% lidocaine + 0.75 mg hyperbaric 0.75% bupivacaine + fentanyl 15-20 mcg. The B.Braun spinal anesthesia tray contains ampules of both hyperbaric 5% lidocaine and 0.75% bupivacaine. The small volumes of local anesthetics and fentanyl were measured with a 1 ml syringe then mixed in the 5 ml spinal tray syringe(4). Spinal anesthesia was initiated in the presurgical area. Patients were premedicated with midazolam. Spinal anesthesia was administered in the sitting position with a 25 ga 3.5 inch Pencan needle (B.Braun) at the L2-3 or L3-4 interspinous space immediately followed by lateral decubitus positioning with the operative side dependent and slight trendelenburg of the transport cart. This position was maintained until arrival in the operating room, approximately 7-10 minutes later. The patients were recovered and assessed in standard fashion by surgical facility nursing personnel. All patients were contacted postoperative day 1 (POD1) per facility routine and again at POD3-POD5 to assess postoperative problems including symptoms consistent with TNS.

**Results:** All anesthetics were rated as excellent by the anesthesiologist or anesthesia nurse assigned to the patient. The median peak cephalad block was T10 on the operative side. The mean SAB injection to discharge time was 186 +/- 34.8 minutes. The median time was 180 minutes. Three patients reported symptoms consistent with TNS(2.5%). One patient experienced a mild postdural puncture headache.

**Discussion:** The results of the study demonstrate a high quality SAB with a predictable injection to discharge period of approximately 180 minutes and a low incidence of TNS in an outpatient population representative of a busy community hospital or freestanding ASC practice. Whether the addition of a small amount of bupivacaine to lidocaine, with or without fentanyl, administered intrathecally, consistently decreases the incidence of TNS without prolonging recovery in this patient population may be determined by a prospective randomized double blind investigation.

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