

Three-year Retrospective Review of Intrathecal Chloroprocaine use after its Re-introduction to a tertiary referral center in Canada

Kevin Choi MD and Vishal Uppal MBBS, FRCA

Department of Anesthesia, Pain Management & Perioperative Medicine, Dalhousie University, Halifax, Canada



INTRODUCTION

- Intrathecal chloroprocaine has a fast onset and short duration of action, making it a suitable agent for ambulatory spinal anesthesia for short surgeries
- Availability in Canada ceased in 2012 due to the shortage of raw materials, but Health Canada approved its importation in 2021
- This study examined spinal chloroprocaine use since its re-introduction and reviewed its clinical performance

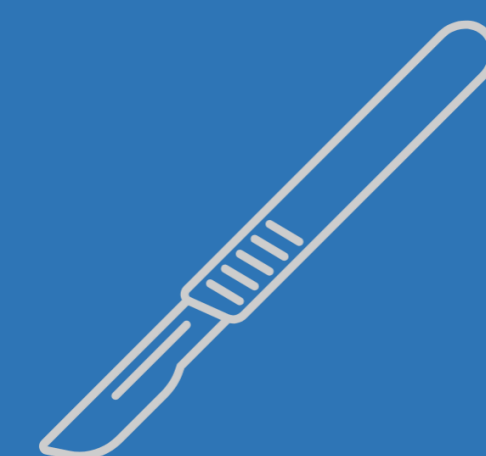
METHOD

- Retrospective medical records review
- Included adult patients who received chloroprocaine spinal anesthesia between November 2021 and January 2024.
- No exclusion criteria.
- Obtained information on patient demographics, medical history, surgical procedure, chloroprocaine characteristics (dose, duration, complications), and unplanned hospital admissions.

RESULTS

- 112 patients received spinal chloroprocaine
- Mean (SD) patient age was 70 (13)
- Ephedrine or phenylephrine was used in 23/112 (21%) of cases.

Spinal chloroprocaine was primarily used for older patients with multiple cardiorespiratory co-morbidities undergoing brief surgical procedures.



Mean surgical duration → 37 minutes



Mean time to Bromage score 1 → 114 minutes



Mean duration in PACU → 144 minutes

- Two patients needed conversion to general anesthesia due to inadequate neuraxial block.
- Six unplanned hospital admissions, with four for surgical complications and one for rapid atrial fibrillation. One patient was admitted because of social factors.

Table 1. respiratory and cardiovascular co-morbidities

Respiratory disease	n/N (%)	Cardiovascular disease	n/N (%)
Obstructive sleep apnea	37/112 (33%)	Hypertension	58/112 (52%)
Active smoking	19/112 (17%)	Coronary artery disease	13/112 (12%)
COPD	15/112 (13%)	Diabetes Mellitus	11/112 (10%)
Asthma	9/112 (8%)	Atrial fibrillation	8/112 (7%)
Active URTI or pneumonia	5/112 (4%)	Heart failure	3/112 (3%)
Myasthenia gravis	2/112 (2%)		
Restrictive lung disease from kyphoscoliosis	2/112 (2%)	Pulmonary hypertension	2/112 (2%)
Pulmonary sarcoidosis	2/112 (2%)		
Double lung transplant on home oxygen	1/112 (1%)		

DISCUSSION

- No major complications such as neurological deficits were observed or self-reported. We did not specifically screen for transient neurologic symptoms (TNS).
- Larger studies are needed to confirm chloroprocaine's safety and compare its performance to other spinal anesthetics on outcomes such as TNS