Outcomes with Intrathecal 3% 2-Chloroprocaine for Cervical Cerclage - A Quality Assurance Study

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Background

•Cervical cerclage -short ambulatory procedure (15- 30 mins) preferentially performed with spinal anesthesia

•Bupivacaine most common agent used, but recovery prolonged[1]

• **Intrathecal (IT) chloroprocaine shown to provide similar anesthetic conditions, while reducing time to discharge**[2]

•ED90 of chloroprocaine, co-administered with fentanyl 10 mcg = 49.5 mg (45.0 – 50.1 mg)[3]

•Prior study using 50 mg dose had 9% intraoperative discomfort

• Practice change at CUMC to IT dose 60mg

•Few studies of IT chloroprocaine doses higher than 50mg

•We report outcomes with 2 years of experience using 60 mg dose

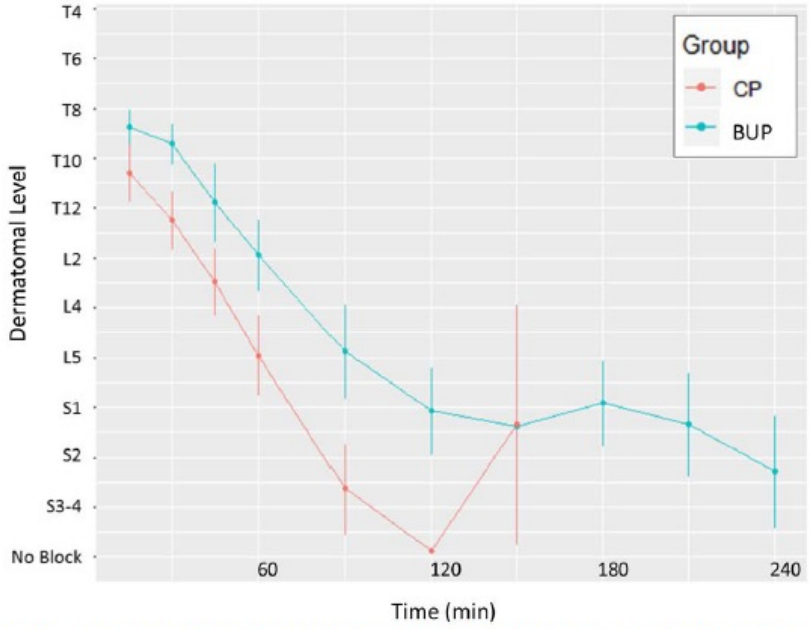


Figure 2. Resolution of sensory blockade to pinprick postoperatively. Time 0 represents 15 min after the end of surgery. Point estimates represent the mean; bars represent the 95% confidence intervals. BUP indicates hyperbaric bupivacaine; CP, chloroprocaine.

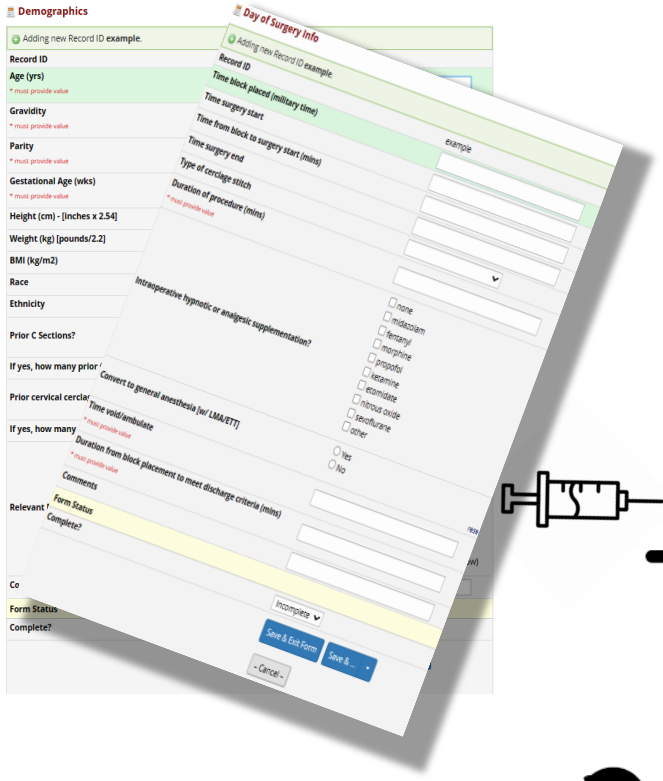
1. Int J Obstet Anesth. 2022 May;50:103276.

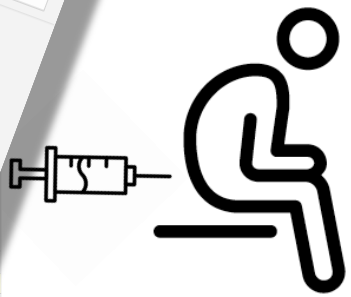
3. Anesth Analg. 2022 Apr 1;134(4):834-842.

2. Anesth Analg. 2022 Mar 1;134(3):624-632.

Methods

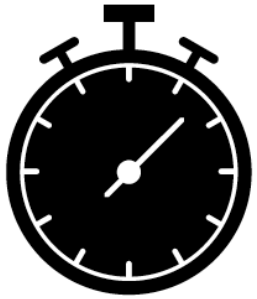
- Retrospective quality assurance study
- Columbia University IRB approved
- Chart review -cervical cerclage w/ IT 3% 2-CP **2021 – 2023**
- Records identified based on procedure type
- In 2022 began documenting follow-up telephone calls post-op Day 1





Data recorded

- Demographic information



Times

- Spinal injection (anesthesia)
  - –Surgery start and end (anesthesia/nursing)
  - –Meeting discharge criteria (ambulate, void) – anesthesia sign-out/nursing note
- Post-op Day 1 concerns – anesthesia post-op note
  - –Headache, back pain, TNS, difficulty voiding?

Results

- N = 219 cases identified, with 205 having documented discharge time
- Mean (SD) surgery duration = 20.3 (13.1) minutes.
- **N = 4 (2%) patients received IV propofol boluses 40 – 100 mg for intraoperative discomfort**
- One also received IV fentanyl
- No patients required general anesthesia.
- Median time from spinal anesthetic drug injection to discharge = 186 [163- 218] minutes.
- Comparable median time in the prior study mentioned =158 [137 – 188] minutes)[3]
- **Mean difference between the 2 groups was 32.6 minutes (95% CI 12, 49),** p =0.001
- No patients reported transient neurologic symptoms, difficulty ambulating or voiding
- One patient complained of back pain and 3 complained of abdominal cramping/discomfort

Demographics	Chloroprocaine N = 208
Age (years)	38 ± 5.4
Race (W/B/A/O or NR)	48/69/9/81
Gestational Age (weeks)	17 ± 4
Parity (range)	0 - 1
Height (cm)	163 ± 7.8
Weight (kg)	80.4 ± 22.3
BMI (kg/m²)	29.3 ± 5.5

Limitations

- Retrospective study
- Times reported based on chart review
- Nursing and anesthesia sign-out notes used as surrogate for resolution of block
- Limits accuracy of findings

Conclusion

- Compared to 50mg dose, 60mg of intrathecal 3% 2-chloroprocine, co-administered with fentanyl 15 mcg had fewer anesthetic failures and blocks needing hypnotic or analgesia supplementation, with *comparable* time to discharge
- No significant adverse events with the higher dose on postoperative day 1
- Need future prospective studies comparing doses; larger studies to assess safety