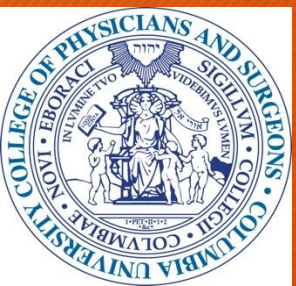


Spinal anesthesia for obstetric fistula repair in Rwanda

R Smiley, W. White, K Gallant, D Jenn, D LeRoi, R Nduwayezu

- International Organization for Women and Development (IOWD, iowd.org) sends medical teams to Kigali, Rwanda, with the major focus repair of obstetric fistulas and related childbirth injuries.
- Anesthetic of choice is spinal anesthesia
 - limited number of medications
 - less reliance on sometimes poorly maintained or calibrated anesthesia machines, ventilators and monitors, and occasional electrical outages.
- Need spinal anesthetic with a relatively long duration, typically hyperbaric bupivacaine (B) and fentanyl (F), with addition of epinephrine (E) for anticipated longer cases.
- Case series describes anesthetic management of 53 procedures during September 2024
- Major change was addition of 5 mcg dexmedetomidine (D) to the anesthetic when the duration of surgery was expected to be more than 2 hours.
- Intrathecal D has been shown to prolong anesthesia and improve postoperative analgesia
 - Also not controlled substance



COI: Spouse owns stock in Amgen, Abbvie, Abbott, Merck, Pfizer, United Health Group, Becton Dickinson, Edwards Lifesciences, HCA Healthcare.



Case series

- 53 surgical cases, 45 initiated with spinal anesthesia.
 - Moderate sedation for most patients (Table)
- 8 patients undergoing short procedures (cystoscopies) received mild sedation or no anesthesia.
- 5 conversions of spinal anesthesia to general anesthesia
 - All in the 28 patients receiving “maximum” spinal doses of 15 mg B, 15 mcg F, 200 mcg E and 5 mcg D.
 - One due to initial failure -- induction of GA before surgical incision.
 - One occurred < 90 minutes after spinal.
 - The other three required conversion at 224 minutes, 241 minutes and 274 minutes
 - 4 were intraabdominal surgery cases and one was a TVH

ANESTHETIC METHOD	SPINAL	SEDATION/NONE
-------------------	--------	---------------

45

8

SPINAL ATTEMPTS (skin punctures)	1	2	3	4
----------------------------------	---	---	---	---

28

12

4

1

SPINAL DOSES	B15/F15/E200/D5	B15/F15/D5	B15/D5	B15/F15/E200	B10-12*
--------------	-----------------	------------	--------	--------------	---------

cases

29

5

1

2

8

surgery duration (min± SD)

170 ± 78

74± 53

42

123 ± 20

59 ± 37

SEDATION (spinal pts, not including induction of GA)	# PATIENTS	MEAN DOSE (mg)	RANGE
--	------------	----------------	-------

Midazaolam

32

1.6

0.5-8

Dexmedetomidine

32

17

4.0-52

Ketamine

1

20

Propofol

3

53

20-80

AIRWAY (when GA used)	LMA	ETT
-----------------------	-----	-----

4

1

B: bupivacaine F: fentanyl E: epinephrine D: dexmedetomidine * most also received F, one D

Conclusion/Discussion

- Possible to provide spinal anesthesia for relatively prolonged, complex intraabdominal procedures with a low conversion rate to general anesthesia.
- Addition of D prolonged and may have improved the quality of the anesthetic and post-operative analgesia.
- No worrisome side effects (bradycardia, hypotension)
- RCT preferable to confirm the efficacy of D in this context, but an ethical trial would have likely required the performance of combined spinal-epidural anesthesia using the epidural catheter as a “rescue” anesthetic, and this equipment was not available to our mission team.