

## The Effects of Pudendal Block in Voiding Complication after Anal Surgery

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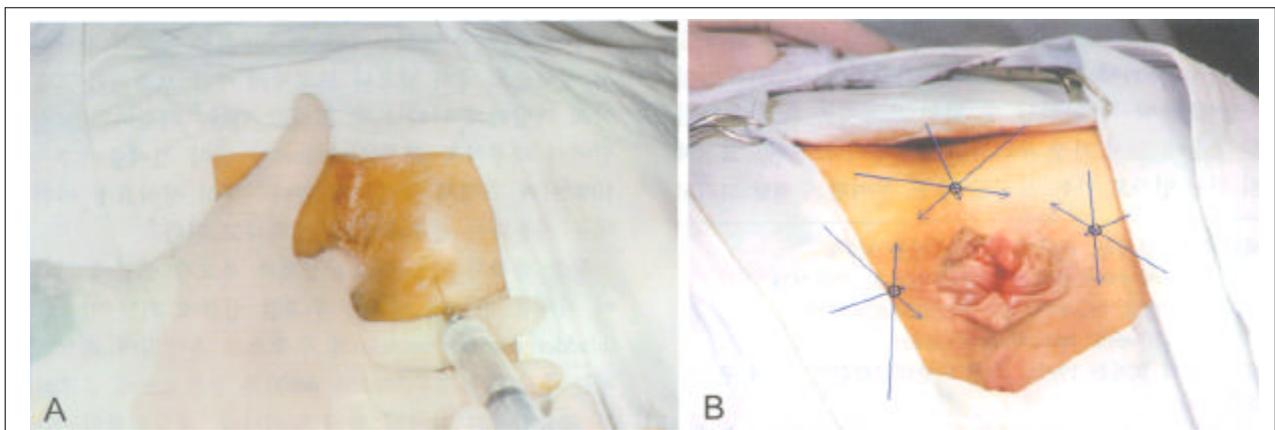
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Urinary retention in common benign anal surgery is a burden to ambulatory surgery. **Purpose:** To reduce voiding complication pudendal nerve block (PB) was applied in hemorrhoids surgery. **Methods:** We compared PB with spinal anesthesia (SA) for anal surgery. In this prospective study, 163 patients undergoing elective hemorrhoids surgery by single surgeon were randomized to receive either PB with 0.5% bupivacaine (n=81) with 1:20,000 epinephrine or SA with 0.5% bupivacaine (n=83). **Results:** There were no statistically significant differences in patient demographics, total amount of administered fluid, time to onset of block, or intraoperative pain. All patients had a successful block for surgery however, puborectalis muscle relaxation with PB was not complete. The time from injection of the anesthetics to first development of pain was longer in the patients who received PB (9.1 vs 3.1h; P < 0.001). Urinary catheterization needed in only 6 patients in PB group compared with 57 cases in SA group (p < 0.001). Degree of pain was significantly low in PB (2.7 vs 5.2 with VAS; p < 0.001) Injected analgesics was significantly reduced in PB (16/81 vs 45/82; p < 0.001) **Conclusions:** Our results suggest that PB with bupivacaine results in fewer postoperative voiding complications and less pain compared with traditional SA in hemorrhoidectomy. (JKSCP 2000;16:365 – 370)

**Key Words:** Urinary retention, Pudendal nerve block, Spinal anesthesia, Hemorrhoids, Bupivacaine

가  
(day surgery) 가  
가  
(deviation) 5  
10%<sup>3</sup>  
가 70%  
2  
4  
5  
317-1  
( : 705-717)  
(Tel: 053-620-3588, Fax: 053-624-1213)  
(E-mail: jhkim@med.yu.ac.kr)  
\* 1999  
(bladder detrusor muscle)  
(bladder neck)  
\* 2000 6 25 29  
101 ASCRS (ameican society of colon & rectal sur-  
geons) Poster  
(perineal muscles)

가 . PB bupivacaine SA  
 (Jack-knife position) 1/200,000 epi-  
 neprine 0.5% bupivacaine  
 23 24 Gauge 가  
 3 9 (ischial tuberosity)  
 10 cm (ischial spine)  
 1996 10 1999 8 (Fig. 1A).  
 163 가 1cc  
 3 4 ,  
 2 3 5 cc  
 81( : 41 ) .  
 (pudendal nerve block: PB ) , 6 10 cc  
 82 ( : 45 ) (spinal anesthesia: 2 3 cc  
 SA ) (Fig. 1B). (12  
 )  
 가  
 fentanyl 50 µg, 5% D/W  
 1,000 cc 4 1  
 25G L3-4 interspace  
 0.5% bupiva-  
 caine (Astra<sup>R</sup>) 5 mg 1



**Fig. 1.** (A) Ischiorectal fossa infiltration of 0.5% bupivacaine with spinal needle is guided by the index finger of surgeon's left hand in the rectum. (B) Intradermal wheals are made bilaterally, midway between the rectum and the ischial tuberosities.

가  
PB  
가  
10  
(anoderm) 10 15 cc bupivacane-  
epineprine  
1  
1 3  
0 10  
visual analogue scale (VAS)  
VAS 0 VAS 10  
NSAID  
(Nelaton catheter)  
SPSS 9.0 Independent  
*t*-test Chi-square test  
logistic regression test  
(Table 1).  
10 Bupiva-  
cane-epineprine  
PB 가  
2

**Table 1.** Patient details

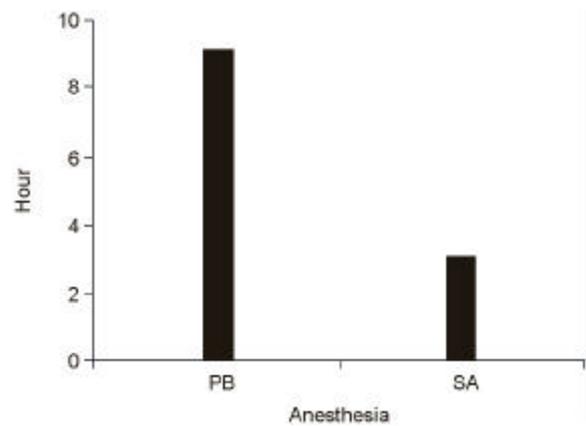
	Pudendal nerve block group	Spinal anesthesia group	P value <sup>†</sup>
Age* (range)	41.8±12.3 (21 76)	43.4±12.2 (20 89)	0.475
Male/Female	41/40	45/37	0.647 <sup>‡</sup>
Degree of hemorrhoids*	3.1±0.5	3.2±0.6	0.229

\*Data are expressed as mean±S.D.

<sup>†</sup> P value was evaluated with *t*-test

<sup>‡</sup> P value was evaluated with Chi square test

SA PB  
37 (46%)  
가 PB 33%(27/81) SA 13%(11/82)  
(P<0.01).  
PB 16 (20%)  
20 SA 45 (55%) 66  
VAS PB  
2.7±2.1 SA 5.2±2.2  
(P<0.001)(Table 2).  
PB 9.1±3.8 SA 3.1±1.4  
(Fig. 2)(P<0.001).



**Fig. 2.** Duration of anesthetic effect (Independent student *t*-test; P <0.001).

**Table 2.** Maximal pain after surgery, number of patients who required analgesics and total number of analgesics injection

	Pudendal nerve block group	Spinal anesthesia group	P value
Maximal pain (VAS)*	2.7±2.1	5.2±2.2	<0.001 <sup>†</sup>
No. of patient	16	45	<0.001 <sup>‡</sup>
No. of total injection	20	66	<0.001 <sup>‡</sup>

\*Pain score VAS (Visual Analog Scale 1-10) are expressed as mean±S.D.

<sup>†</sup> P values was evaluated by *t*-test

<sup>‡</sup> P values were evaluated by Chi-square test



bupivacaine tetracaine (detrusor muscle) 7 8 .<sup>13</sup>

lidocaine . Lidocaine .<sup>14</sup>

bupivacaine lidocaine 가 . Bupi- vacaine 가 . Bupi- vacaine 3 10 . (brachial plexus block) 10 12 3 4 .<sup>15</sup>

PB epineph- rine bupivacaine 가 brachial plexus block 8 12 .

bupivacaine .<sup>16-18</sup> Marsh<sup>18</sup>

Chester<sup>19</sup> Hooker<sup>16</sup> 가 . Hussein 10 . PB 3 SA . Luck Hwett<sup>20</sup> bupivacaine (ischio-rectal fossa) 가 . 가 . (preemptive anal- gesia) PB

2,1,22 . 2-4 (S2-4) 가 (anterior rami) (pudendal nerve) . 2-4 가 (piriformis) (coccygeus muscle) (greater sciatic foramen) . (ischial spine) (internal pudendal artery) (ischal tuberosity) . 3 1) (inferior hemorrhoidal nerve) (Alcock's canal) (ischio-rectal fossa) . 2) (perineal nerve) 가 가 (urogenital diaphragm) , (membranous urethral sphincter) 가 . 3) ( ) (dorsal nerve of the clitoris) .<sup>23</sup> 가 (deep branch of the perineal nerve) PB . PB 가 PB 10 . PB 3 SA . 가 가 가 가 . PB

Bupivacaine (PB)  
(SA)

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