

Does Continuous Peripheral Nerve Block Provide Superior Pain Control to Opioids? A Meta-Analysis

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B. ... M. ... ; Dr. ... A. ... V. ... M. ... M. ... G. ... U. ... W. ... ; S. ...
W. ... ; P. ... C. ... O. ... M. ... P. ... R. ...

A ... (CPNB) ... We ... (1966-2004) ... CPNB ... N. ... 603 ... (≥ 18), CPNB ...

... ($P < 0.001$). T. ... 24 ($P < 0.001$), 48 ($P < 0.001$), 72 ($P < 0.001$) ... ($P < 0.05$). N. ... ($P < 0.001$). A. ... ($P < 0.001$). CPNB ... (A. ... A. ... 2006;102:248-57)

S ... C. ... (CPNB) ... / ... (1,2).
E ...

... (4-7).
N. ... CPNB ...
A. ... CPNB ...
T. ... (RCT) ... (1)

... (... / ... , 3) ... , 4) ...

Methods

A ... O ... M ... RCT ...
CPNB ... 1966 ... M ... 2004
... P ... (13,752 ...)
... (7399 ...)
788 ... L ... RCT ...
... (≥19 ...) ... 236 ... W ...

... I ...
... O ...
... (...) ...

Results

A total of 19 patients (603) were included in the study. The mean age was 67.5 years (range 55-85). The majority of patients were male (15/19, 78.9%). The mean duration of anesthesia was 105 minutes (range 60-150). The mean duration of surgery was 120 minutes (range 90-150). The mean duration of recovery was 30 minutes (range 20-40). The mean duration of hospital stay was 2 days (range 1-3). The mean duration of follow-up was 12 months (range 6-24). The mean duration of follow-up was 12 months (range 6-24).

Table 3. Incidence of Postoperative Nausea and Vomiting (PONV) in Patients Undergoing General Anesthesia with Regional Anesthesia (RA) or Opioids (O) for Pain Management. Data are presented as number of patients (n) and percentage (%).

Author (Year)	Treatment	Control	N	Incidence (%)	Opioid	B	W	SS	VAS	CPNB
Burkhardt (1998)	M	I	30 C 30 O	0.2%*	N IV PCA (O) N	Y	N	SS (12)	VAS (18)	CPNB
Burkhardt (1997)	M	I	20 C 20 O	0.15%*	N IV PCA (O) N	Y	N	SS (12)	VAS (18)	CPNB
Burkhardt (2000)	M	I	18 C 15 O	0.2%*	N IV PCA (O) N	Y	N	SS (12)	VAS (24)	CPNB (N)
Klein (2000)	O	I	22 C 18 O	0.2%*	M PCA (O) (C)	Y	Y	SS (12)	VAS (24)	CPNB
Isler (2003)	O	I	10 C 10 O	0.2%*	O PO (O) (C)	Y	Y	SS (12)	VAS (24)	CPNB (48)
Isler (1999)	A	I	10 C 10 O	0.25%*-	M PCA (O) M IV (C)	N	N	SS (24)	VAS (12)	CPNB (24)
Isler (2002)	O	I	15 C 15 O	0.2%*	O PO (O) (C)	Y	Y	SS (24)	VAS (48)	CPNB (48)

C = Control; O = Opioid; PCA = Patient-Controlled Analgesia; SS = Sedation Score; VAS = Visual Analog Scale; CPNB = Cervical Plexus Block; *C = Control; -C = Control; T = Treatment; IM/IV = Intramuscular/Intravenous.

RCT (Weber et al., 2003). We (14,15). T (12, 24). A (PCA) IV PCA

Table 5. VAS Pain Scale, C, L

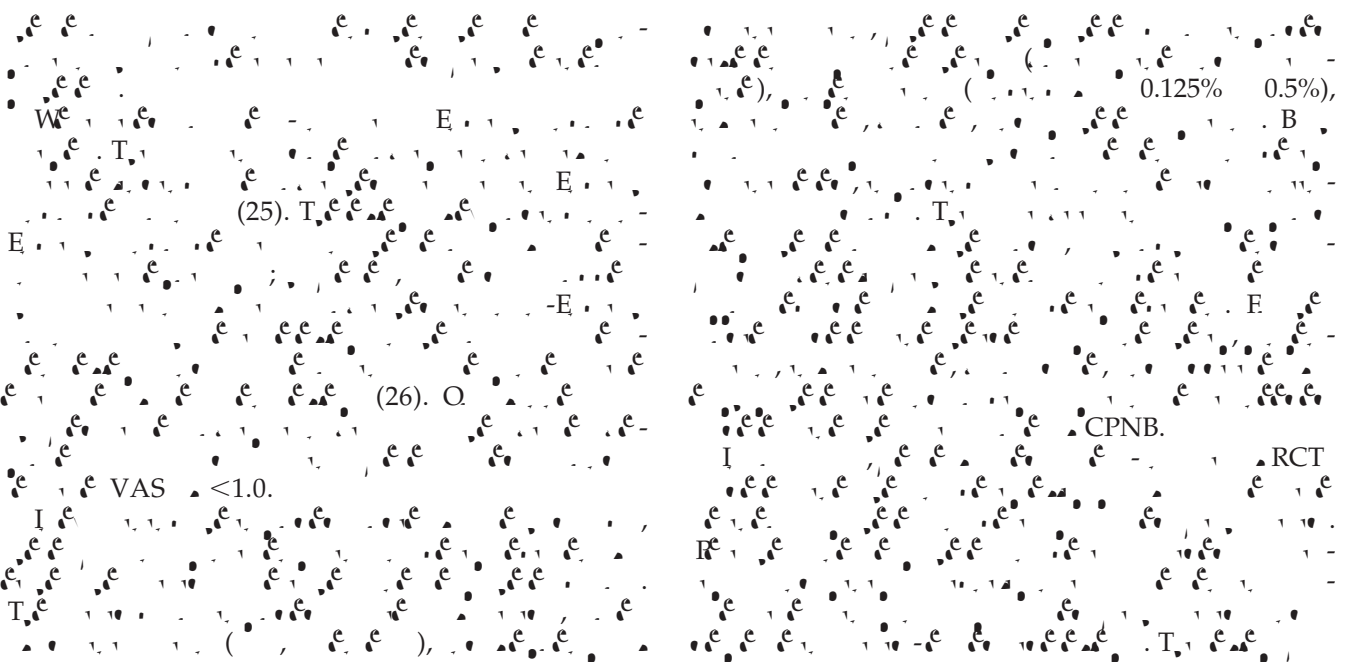
L	M VAS			M VAS	
	24	48	72	24	48
I	$P < .001$	$P < .001$		$P < .001$	$P < .001$
C	1.0 (0.3 1.7)	0.6 (0.0 1.3)		2.5 (1.7 3.3)	1.5 (0.7 2.3)
O	4.3 (3.1 5.5)	4.0 (2.9 5.1)		6.1 (4.8 7.4)	5.1 (3.9 6.3)
N	1	1		1	1
I	$P < .001$	$P < .001$		$P < .001$	$P = 0.05$
C	1.4 (1.1 1.7)	0.5 (0.3 0.7)		3.8 (1.9 5.7)	3.9 (2.0 5.8)
O	3.6 (2.0 4.2)	2.3 (1.9 2.7)		8.0 (6.7 9.3)	6.5 (4.5 8.5)
N	6	6		1	1
R/L					
P	$P < .001$	$P < .001$	$P < .001$	$P < .001$	$P < .001$
C	2.1 (1.5 2.7)	1.6 (1.2 2.0)	1.5 (1.3 1.7)	3.8 (3.2 4.4)	2.7 (2.3 3.1)
O	4.0 (3.7 4.3)	3.2 (2.9 3.5)	2.7 (2.1 3.3)	5.4 (4.8 6.0)	4.6 (4.1 5.1)
N	8	8	3	3	3
S	$P < .001$	$P < .001$	$P < .001$	$P < .001$	$P < .01$
C	0.9 (0.6 1.2)	0.9 (0.6 1.2)	1.6 (1.4 1.8)	1.9 (0.2 3.6)	2.6 (0.9 4.3)
O	4.6 (4.0 5.2)	3.5 (2.9 4.1)	3.2 (2.8 3.6)	7.2 (6.4 8.0)	5.6 (4.4 6.8)
N	2	2	1	1	1

M (VAS) (N = 95%)

Table 6. S, E

S	C	O	P	Q	NNT
N /	38/182 (20.9%)	95/195 (48.7%)	<0.001	0.28	4
S	12/45 (26.7%)	23/44 (52.3%)	<0.012	0.33	4
P	11/113 (9.7%)	29/109 (26.6%)	<0.001	0.30	6
S /	22/70 (31.4%)	9/60 (15.0%)	<0.023	0.39	

I (182) R (38) 38/182 NNT = 38 NNT



T. ... B. I., MD, A. P.
 D. ... A. ... U. ... F. ... G. ...
 F. ...

Appendix: Articles Meeting Inclusion Criteria

1. B. A. R. H. B. P. P. 0.2% IV. 2000;92:102-8.
2. W. PF, I. T, S. GD. T. 2003;97:1303-9.
3. G. JP, W. S, G. MJ. P. B. J. S. 1996;83:1735-8.
4. C. X, B. Y, B. P. E. A. 1999;91:8-15.
5. C. O, R. J, B. J, D. D. T. A. A. 2004;98:1077-81.
6. C. A, R. H, S. M. C. R. A. P. M. 1999;24:563-8.
7. B. A, S. B, B. N, C. C. P. A. 1997;87:1343-7.
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11. G. S, W. RA, W. JT. M. A. 1999;89:1197-202.
12. S. NL, A. -M. E, D. JB. T. E. J. 1996;13:410-2.
13. I. S, K. LO, J. G. C. A. A. S. 1999;43:258-64.
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15. B. ND, W. EM. C. 3-1. A. A. 1992;75:265-7.
16. H. GC, L. SA, D. WN. R. S. R. A. 1996;21:292-7.
17. S. MG, M. FA, T. MF. C. A. 1991;46:275-7.
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References

1. S. FJ, D. M, J. D. E. A. A. 1998;87:88-92.
2. C. X, B. Y, B. P. E. A. 1999;91:8-15.
3. D.
4. C. JE, D. L, W. B, B. B. O. R. P. R. C. A. 2002;16:311-20.
5. G. SA, N. KC, G. KC, A. 434.3(KC,6T.5(B4C. :265-741

6. I. J. • BM, M. J. • TE, W. J. • RD, E. J. • FK. C. J. • .