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DOES A PREVIOUS NEURAXIAL PROCEDURE AFFECT SUBSEQUENT EPIDURAL SUCCESS RATE IN OBSTETRIC PATIENTS

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Introduction: A repeated epidural block involves a higher failure rate (18%) following a previous epidural block (1) or a previous wet tap (2). However, in these studies no epidural opioid was included. We conducted a prospective, IRB approved study to assess the incidence of technical problems and the efficiency of epidural block in parturients with or without a previous history of neuraxial procedure who received epidural ropivacaine (R) analgesia with fentanyl (F) and epinephrine (E) adjuvants.

Methods: Following informed consent 2735 parturients requesting epidural analgesia were assigned to: Group I (n=1628): had no history of neuraxial procedure, Group II (n=1107): had history of neuraxial procedure. A 19-gauge B Braun catheter was inserted 5 cm into the epidural space via a midline 17-gauge Hustead needle. After a test dose, patients received R 0.1% +F 4 µg/ml + E 2 µg/ml as a 10 ml loading dose followed by an infusion at 6 ml/hr, later adjusted to the patients need to a maximum of 12 ml/hr. History of previous neuraxial procedure, technical problems and efficiency of the block, difficulty with catheter insertion, blood or CSF in the catheter, catheter induced paresthesia and/or involuntary leg movement were recorded. The catheters were used for C/S anesthesia and were kept for up to 3 days for post C/S analgesia. Data were expressed as mean ±SD; p less than 0.05.

Results: There were no differences among the groups with respect to infusion duration, difficulty with catheter insertion, kinking, intravascular or intrathecal migration, readjustment, reinsertion, dislodgement, difficulty with removal, complaint of catheter paresthesia (37% and 42% for Groups I and II respectively) and overall satisfaction (9.5 for Groups I and II). Of patients with one-side anesthesia, only one in Group II, who had a previous history of a blood patch, this problem could not be corrected by a total of 20 ml bolus injection, readjustment and insertion of the epidural catheter.

Conclusion: A previous history of neuraxial procedure increased the incidence of one-side anesthesia and visible paresthesia and reduced the catheter insertion satisfaction rate without affecting overall satisfaction. However, when a mixture of epidural ropivacaine, fentanyl, and epinephrine was administered for labor pain, in our study only 4.5% of parturients with a previous history of a neuraxial procedure had one-side anesthesia, of whom in only one patient this problem could not be corrected with a large 20 ml bolus injection, readjustment or reinsertion of catheter.

1. Korbon GA et al.: Anesth Analg 1987, 66:669-72.
2. Blanche R et al.: Anesth Analg 1994, 79:291-94.

	Group I	Group II
Age (years)	28.4±6.1***	31.4±5.3
Weight (kg)	78.1±16.2**	80.9±17.2
Height (cm)	161.4±7.7	161.4±9.1
Primipara(%)	1147(71)†	32(3.0)
Sitting Position (%)	496(31)	251(33)
Lateral Position (%)	1112(69)†	758(74.7)
Inf. Duration (hr)		
L&D	8.9±9.7	9.4±16.3
C/S	50.0±20.3	48.6±19.6
Previous Spinal Anesthesia (%)	0	74 (7.3)
Previous Blood Patch	0	7 (0.7)
Previous Blood Patch w/one sided anesthesia	0	1 (20)
Distance Epidural Space (cm)	5.3±1.0*	5.4±1.0
One Side Anesthesia (%)	29(2.4)**	32(4.5)
Visible Paresthesia (%)	76(16)**	76(23)
Cath Insert Satisfaction <7 (%)	20(4.3)†	30(9)

*GI <GII, p<0.01; **GI<GII, p<0.00001, †GI>GII, p<0.0001.