

A003 A Physiological Observational Study to Compare the Difference between Noninvasive Blood Pressure in the Dependent and Nondependent Arms with Reference to Invasive Arterial Blood Pressure in Patients Undergoing Neurosurgical Procedures in Lateral Decubitus Position
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Background: Patients are positioned in the lateral decubitus position (LDP) for surgeries. Blood pressure (BP) varies with arm and body position due to hydrostatic force. This has been studied in awake, pregnant, and stroke patients. We have studied the difference between noninvasive BP (NIBP) in the dependent and nondependent arms with reference to invasive BP and the differences as the anesthesia progresses.^{1,2}

Materials and Methods: Forty-two ASA I–III patients aged between 18 and 70 years undergoing neurosurgical procedures in LDP were recruited. Using an appropriate cuff size, NIBP was measured simultaneously in both the arms in supine position. After induction, invasive BP was done and transduced at midaxillary line. Both arms NIBP was correlated with invasive BP at 5 minutes and 15 minutes. After positioning in LDP, invasive BP was transduced at the mid-sternal level. Twelve readings of NIBP were recorded simultaneously on both arms, correlated with invasive BP, and analyzed.

Results: Mean age- 42.2 years, 28 patients -ASA I and 14 patients-ASA II, BMI- 23.63. The mean difference between the noninvasive and invasive BP in systolic, diastolic and mean in right arm -0.125, 9.25, and 3.65 mm Hg; and 1.475, 7.24, and 1.925 mm Hg in the left arm in supine position. In LDP, the noninvasive systolic, diastolic, and mean BP of dependent arm was compared with the invasive BP; was varying between 2–6; 7–10; 2–4 mm Hg, respectively. All three BPs of nondependent arm were compared with invasive BP and varied between -8 and -15; -4 and -10; -8 and -14, respectively. The mean BPS difference between NIBP and ABP was larger in left LDP compared with right LDP. Hypertensive patients had fluctuations in mean difference compared with normotensives.

Conclusions: Noninvasive mean BP of the dependent arm correlates well with invasive mean BP. Nondependent arm systolic and mean BP is much lower when compared with invasive pressures. There is no significant change in difference as anesthesia progresses.

References

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2. Netea RT, Lenders JWM, Smits P, Thien T. Both body and arm position significantly influence blood pressure measurement. *J Hum Hypertens* 2003;17(7):459–462

A004 Analyzing the Effects of Intraoperation Video-Clip Display on Hemodynamics and Satisfaction of Patients during Lumbar Discectomy under Spinal Anesthesia
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Background: Most neurosurgeons and anesthesiologists prefer the less invasive intervention for most surgeries; recently, the lumbar anesthesia is a more popular method. In this study, we have tried to distract the attention of patients to their favorite video clip instead of their surrounding operating room background to evaluate the hemodynamics as well as their satisfaction during the operation.

Materials and Methods: Eighty patients who were scheduled for an elective one level discectomy under the regional spinal anesthesia enrolled in this prospective randomized clinical trial. Patients were randomized with sealed envelope method, and each envelope was randomly assigned from this set of envelopes to be either in case group 1 (video group) or control group 2 (no audio and video and only head phones on their ears). In all patients, systolic and diastolic blood pressures, pulse rate, and SpO₂ were measured and recorded in the questionnaire charts.

Results: Of the 80 patients with lumbar disk herniation, 53 patients were males and 27 females. The mean age for all patients was 44 years. Systolic and diastolic blood pressures at the end of surgery was significantly lower in video group ($p = 0.045$ and 0.004). Systolic blood pressure differences between third and fifth and the end of the surgery with minute 0 was significantly less in the video group ($p = 0.025$, 0.018 , and 0.030). Diastolic blood pressure differences between third and fifth and the end of the surgery with minute 0 was significantly less in the video group ($p = 0.051$, 0.019 , and 0.15). Pulse rate differences between first, third, fifth, and exactly before leaving the recovery room with minute 0 was significantly less in the video group ($p = 0.015$, 0.028 , 0.030 , and 0.008).

Conclusions: According to our study, by displaying patients' favorite video clip during the surgical intervention, we could highly reduce their attention to what is happening in operating room, and therefore, decrease their anxiety and stress.

A005 Effect of Left Ventricle Outflow Tract Velocity Time Integral Guided Goal-Directed Fluid Therapy on Intraoperative Hemodynamic Parameters in Patients with Aneurysmal Subarachnoid Hemorrhage: A Randomized Controlled Trial

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