The comparison of the bean bag versus the Pink Pad® in preventing patient displacement during gynecologic laparoscopic surgery: A randomized controlled trial

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OBJECTIVES: During laparoscopic and robotic surgery, patients are placed in a steep Trendelenburg position in order to optimize pelvic visualization. Several positioning techniques and equipment are used in order to minimize patient displacement during the surgical procedure. This study compares the amount of patient displacement on the operating room bed when a patient is positioned on the bean bag versus the Pink Pad®.

MATERIALS AND METHODS: The study was approved by the Institutional Review Board at the Icahn School of Medicine at Mount Sinai. Women undergoing laparoscopic or robotic gynecologic surgery were consented to participate in the study pre-operatively. Patients were randomized to the Pink Pad® (group A) or the bean bag (group B) for intraoperative positioning and were not informed of their randomization. The patients’ positions were measured before and after the procedure and the displacement was recorded. Patients were followed post-operatively and questioned regarding upper extremity or lower extremity weakness, numbness, or pain. Demographic characteristics were collected using the electronic medical record.

RESULTS: Forty-three patients were included in the study (22 in group A and 21 in group B). The demographic and intraoperative characteristics of the patients were similar in both groups, including age (51  14 years old [group A], 50  13 years old [group B]; p ¼ 1.0), body mass index (26.4  6.8 [group A], 26.2  5.9 [group B]; p ¼ 0.92), estimated blood loss (165.5  215.6 mL [group A], 126.0  154.2 mL [group B]; p ¼ 0.50), length of surgery (121.9  49.9 minutes [group A], 110.5  53.2 minutes [group B]; p ¼ 0.47), and uterine weight (235.4  271.2 grams [group A], 248.4  308.8 grams [group B]; p ¼ 0.88). None of the patients had intraoperative complications. The patients in group A moved a mean distance of 3.80  3.32 cm while those in group B moved a mean distance of 1.07  1.93 cm (p ¼ 0.002). In group A, two patients had lower extremity numbness and one patient had upper extremity numbness. In group B, one patient had upper extremity pain and one patient had both upper and lower extremity numbness. These patients had complete resolution of their symptoms within the first two weeks postoperatively, with the exception of one patient in group A whose lower extremity numbness resolved 3 months postoperatively.

CONCLUSION: Positioning patients on the bean bag resulted in significantly less displacement during gynecologic laparoscopic surgery when compared to the Pink Pad®. All postoperative extremity numbness, weakness, or pain was temporary and resolved completely in our cohort. A larger study would be necessary to determine the true incidence of peripheral nerve injuries, as these are rare complications of laparoscopic surgeries.
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