In Reply:—We thank Dr. Mulroy for his comments on voiding requirement in outpatients receiving neuraxial blockade with short-acting local anesthetic. We would like to take the opportunity to clarify some issues raised by Dr. Mulroy.

In our review,1 we identified several risk factors for postoperative urinary retention (POUR), such as type and duration of surgery, patient comorbidities, intraoperative fluid management, and choice of anesthetic and analgesic technique.

In the setting of ambulatory surgery, we proposed an algorithm based in part on two previous studies by Pavlin et al. In the first study, patients were stratified before surgery in high and low risk for POUR. Patients who had a past history of urinary retention and those who underwent anorectal and inguinal hernia repair surgery were considered at high risk, even if they did not receive either spinal or epidural anesthesia. In the second study, 27% of the patients who received neuraxial anesthesia with local anesthetic (bupivacaine or lidocaine ± epinephrine) were unable to void and had a bladder volume greater than 600 ml, thus requiring in-and-out bladder catheterization. These patients were identified by Pavlin et al. as high risk only because they received neuraxial anesthesia. However, in our opinion, the high incidence of POUR in this group was not caused by the use of spinal–epidural anesthesia per se, but by the use of long-acting local anesthetics. Mulroy et al.2 in contrast, studied 46 patients without risk factors for POUR who received spinal or epidural anesthesia with short-acting local anesthetic with or without intrathecal fentanyl and who were discharged without voiding. None of them returned to the hospital because of POUR.

The aim of our review was to bring to the attention of anesthesiologists the perioperative risk factors for POUR, and propose an algorithm on how to manage urinary retention judiciously. We agree with Dr. Mulroy that in outpatients with no risk factors for POUR, neuraxial anesthesia with short-acting local anesthetic does not increase the risk of POUR, and patients can be discharged home without voiding. However, in patients with preoperative risk factors for POUR, neuraxial anesthesia with short-acting local anesthetic may or may not further increase the risk, but the availability of a perioperative algorithm that includes the use of a bladder scan could facilitate the management of this potential complication.

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References


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To the Editor.—In acute lung injury and acute respiratory distress syndrome (ARDS), the aim of positive end-expiratory pressure (PEEP) is to recruit lung tissue preventing the cyclic opening and closing of alveoli (atelectrauma). However, PEEP is associated to deleterious effects or a “high” PEEP to maximize lung recruitment and gas exchange (open lung strategy). In their recent meta-analysis, Phoenix et al. observed that, in ARDS patients, the use of a high-PEEP strategy showed a trend toward improved mortality and increased risk of barotrauma, although these changes were not statistically significant. However, the authors stated that “the benefits [of this strategy] far outweigh potential risks” and considered that “current evidence supports the use of high PEEP in unselected groups of patients.”

A major limitation in these studies is the lack of definition of high PEEP. Protocols include two strategies in which one of the groups is randomly assigned to receive a higher level of PEEP than the other. The selection of the PEEP level is rather arbitrary, based on oxygenation criteria, and always limiting the plateau pressure. The PEEP is never estimated repeatedly in individual ARDS patients as their lung injury improves, the stress index improves, and the electrical impedance tomography improves.13 Interestingly, in the three smaller studies included in the meta-analysis by Phoenix et al. but finally excluded for the conclusions, PEEP was set according to the pressure–volume curve. Of note the apparent major benefit observed with a high PEEP level in these studies. Until recruitment/derecruitment and hyperinflation are not estimated repeatedly in individual ARDS patients as their lung injury

High Positive End-expiratory Pressure and Mortality in Acute Respiratory Distress Syndrome

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