In Reply:—I thank Dr. Ben-David for his interest in our recently published paper on the risks associated with high injection pressure during lumbar plexus blockade.1 Here is my brief reply:

1. Dr. Hadzic is a shareholder at Macosta-Medical USA (Houston, TX); none of the remaining authors have financial interest in the device used in the study. In hindsight, although we simply studied the effect of injection pressures on epidural spread during lumbar plexus block rather than the actual devices or means of monitoring, this probably would have been best disclosed a priori.

2. It would be logical to assume that a small volume of injectate is unlikely to lead to epidural/contralateral spread of the local anesthetic, regardless of the injection pressure. Our findings, however, specifically indicate that high injection pressure during a standard single-shot technique of lumbar plexus block using 35 ml carries a significant risk of this complication. Administration of local anesthetic through a small-gauge indwelling catheter may involve an entirely different process and/or injection pressure considerations. This was not the subject of our study, and I do not have data to comment on this objectively.

3. I appreciate Dr. Ben-David’s description of an alternative technique consisting of paravertebral L1 to L2 low-volume injections for postoperative analgesia after hip arthroscopy.2 In our study, a lumbar plexus block was used as anesthesia for knee surgery, rather than for postoperative analgesia as in Dr. Ben-David’s publication.1,2 Equating anesthesia with analgesia remains a common source of discussion bias when discussing regional techniques; techniques used for analgesia are not universally interchangeable with techniques used for anesthesia. Finally, an anecdotal publication of two successful patient management scenarios using a new technique does not support claims of greater safety, efficacy, and ease-of-use advantages.2

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References


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What Happens with the Fluid Replacement in the Septic Surgical Patient?

To the Editor:—We have read the interesting review of Chappell et al.1 about the rational approach to preoperative fluid management, and we would like to add several aspects related to the surgical patient with sepsis coming to the operation room.

In 2004, the first guidelines2 of the management of the septic patient were published. In these guidelines, fluids were essentiality given to reach the objectives in terms of blood pressure. At the beginning of 2008 these guidelines were updated,3 and one of the most important items was still fluid replacement. If you follow the guidelines, as you should, you will find yourself giving a huge amount of volume in the first 24 h.

These guidelines did not differentiate the surgical and the medical patient. As we all know, our surgical patient has many differences in terms of fluid management.

For example, if you are on duty and the surgeon calls us because he has a patient in septic shock because of peritonitis, then we follow the guidelines using different monitors that show us the fluids the patient needs (central venous saturation, systolic pressure variation, lifting the legs up, etc.); what we really obtain is a very liberal fluid strategy.

As Chappell et al.4 analyze, there are many studies that show us that the liberal strategy increases the anastomotic leaks, pulmonary edema, and wound infection after colorectal surgery. So what do we do?

To try and answer this question, we have to first find studies that discuss this specific topic, but it is really difficult to find. So what we really do is extrapolate the studies of the surgical scheduled patient and the septic patient, and we put them all together.

In the majority of patients, the septic surgical patient reaches the operation room with a high negative fluid balance, hypoproteinemic (hypoalbuminemic), and hypotensive. At that moment we start to administer fluids, but what type of fluids? The septic patient guidelines indicate that there is no difference in terms of mortality in using colloids or crystalloids.

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References


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In Reply:—We thank Dr. Navarro-Martinez and colleagues for their letter concerning our review on perioperative fluid management. In general, we would like to point out that our article was targeted on perioperative fluid therapy in patients who primarily have a steady state concerning their fluid compartments. In these patients an intact vascular barrier function ensures that, despite a positive pressure within the circulatory space, plasma constituents are not distributed evenly across the whole extracellular compartment. Rather, under normal physiologic conditions, they are predominantly retained where they are needed to maintain a sufficient cardiac preload. A small residual flow towards the interstitial space is managed by an intact lymphatic system. In this situation, requirement-adapted fluid handling might limit tissue edema by considering physiologic and pathologic shifting, provided that the vascular barrier is primarily fully functioning.

The septic patient, undergoing surgery or not, does not present such a steady state. The normally accompanying capillary leakage syndrome, as a result of an insufficient vascular barrier, leads to a barely calculable shift of fluid and macromolecules (such as proteins and colloids) towards the interstitial space, representing a primary problem of fluid and macromolecules (such as proteins and colloids) towards the interstitial space, representing a primary problem.


Nitric Oxide Metabolites, Platelet Activation, and Myocardial Ischemia Reperfusion Injury

To the Editor:—We read with great interest the research article by Nagasaka et al. demonstrating a role of nitric oxide and its metabolites in the systemic circulation. As the authors impressively demonstrate, active nitric oxide metabolites are carried into the systemic circulation where they accumulate in the blood and in the heart, and as a result have significant impact on the extent of myocardial ischemia reperfusion injury.

The above letter was sent to the authors of the referenced report. The authors did not feel that a response was required. —James C. Eisenach, M.D., Editor-in-Chief