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Retrograde autologous priming (RAP) technique to reduce blood transfusions during cardiac surgery (January 2021)

During cardiopulmonary bypass (CPB), techniques such as retrograde autologous priming (RAP) and/or antegrade autologous priming are used to limit hemodilution by replacing CPB circuit prime with the patient’s blood, which reduces the crystalloid priming volume by approximately 400 to 800 mL. In a meta-analysis of observational studies and randomized trials including over 3,500 patients, RAP was associated with >60 percent reduction in intraoperative red blood cell transfusions [1]. Although not feasible in some patients due to safety concerns (e.g., those with critical coronary or cardiac valve disease or cerebral comorbidities), these techniques are a useful component of blood management in selected adults, particularly those with excessive intravascular volume.

Liposomal bupivacaine not clearly superior to nonliposomal bupivacaine for nerve blocks (February 2021)

Benefits of using liposomal bupivacaine, a sustained release bupivacaine formulation, rather than standard bupivacaine for regional anesthesia have not been demonstrated

and it is significantly more expensive than nonliposomal bupivacaine. In a meta-analysis of nine randomized trials comparing the two drugs for peripheral nerve blocks, liposomal bupivacaine improved the area under the curve of pain scores from 24 to 72 hours by a clinically unimportant amount (1 cm/hour, on a scale of 0 to 10 cm) [2]. Opioid consumption, time to first analgesic request, and opioid related side effects were similar for the two groups. These findings provide additional evidence failing to support the routine use of liposomal bupivacaine over standard local anesthetics.

References

1. Hensley NB, Gyi R, Zorrilla-Vaca A, et al. Retrograde Autologous Priming in Cardiac Surgery: Results From a Systematic Review and Meta-analysis. *Anesth Analg* 2021; 132:100.
2. Hussain N, Brull R, Sheehy B, et al. Perineural Liposomal Bupivacaine Is Not Superior to Nonliposomal Bupivacaine for Peripheral Nerve Block Analgesia. *Anesthesiology* 2021; 134:147.

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