Monitoring and anaesthetic management of parturients with mitral stenosis

To the Editor:

I read with interest the article of Hemmings *et al.*¹ concerning the intrapartum management of a patient with mitral stenosis. These authors noted several differences from our previous work.² Haemodynamic observations differed from patients in our series in several respects. Most notably, Hemmings *et al.* did not observe a postpartum increase in pulmonary capillary wedge pressure. While they mentioned several factors which may account for this difference, principally the use of epidural anaesthesia, a difference in patient selection may also have played a role. The patient described by Hemmings *et al.* experienced the onset of dyspnoea on exertion after walking six blocks, by definition, New York Heart Association Class Functional II. In our series, only patients who were Functional Class III or IV were included. In this group of patients, the ability to tolerate the postpartum autotransfusion phenomenon might be expected to be less than a patient with less severe valvular disease who had previously undergone commissurotomy, confirming our observation that the postpartum rise in PCWP was most marked in those patients with the most severe valvular disease.

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REFERENCES

- 1 Hemmings GT, Whalley DG, O'Connor PJ, Benjamin A, Dunn C. Invasive monitoring and anaesthetic management of a parturient with mitral stenosis. *Can J Anaesth* 1987; 34: 182-5.
- 2 Clark SL, Phelan JP, Greenspoon J, Aldahl D, Horenstein J. Labor and delivery in the presence of mitral stenosis: central hemodynamic observations. *Am J Obstet Gynecol* 1985; 152: 984.

REPLY

We appreciate Dr. Clark's interest in our report and would accept his suggestion that patients at a functional classification more severe than the patient on whom we reported might respond differently to post-partum auto transfusion. As I am sure he will agree, we do not have the database from one patient to confirm this, but would suggest that the more severely

functionally compromised parturient with mitral stenosis might especially benefit from the peripheral vasodilating effects of epidural anaesthesia maintained well into the post-partum period.

Based on our experience, we feel comfortable in recommending epidural anaesthesia for parturients for mitral stenosis, provided suitable haemodynamic monitoring is available.

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CPAP circuit for non-ventilated lung during thoracic surgery

To the Editor:

We would like to describe a modified Mapleson D anaesthetic circuit that we have developed to provide continuous positive airway pressure (CPAP) to the non-ventilated lung during thoracic surgery. The surgeon frequently needs the operative lung temporarily re-inflated in mid-operation to check for air leaks in the bronchial suture lines. Technically this is very awkward using previously described CPAP circuits.^{1,2}

Our circuit (Figure) is composed of a 22 mm polyethylene corrugated tubing with oxygen side-arm connectors (U/adapt®, Airlife Inc., Montclair, California) at each end. The oxygen inflow and outflow lines are standard 4 mm polyethylene tubing. At the distal end of the circuit is a "pop-off" valve (closed during CPAP) and a three litre reservoir bag. The oxygen outflow line exits at a variable distance underwater in an occluded 50 ml syringe. We secure the oxygen line in the syringe by passing it through the perforated plunger of a 20 ml syringe which is then fitted into a "T" piece and wedged into the open end of the 50 ml syringe. (Alternately the line can be passed through the plunger of the 50 ml syringe and a side-hole opened near the top of the syringe.)

Temporary clamping of the oxygen outflow line permits inflation of the non-ventilated lung, by pressure on the reservoir bag, when required for surgical purposes. Releasing the clamp will allow the lung to deflate to its previous level of CPAP. The oxygen inflow line can be clamped to permit assessment of air leak from the non-ventilated lung to assure isolation of one lung from the other.

The level of CPAP in the circuit corresponds to the number of centimeters the distal orifice of the oxygen