CORRESPONDENCE

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Postanesthetic Apnea in Full-term Infants

To the Editor:—Recently Andropoulos *et al.*[1] described four full-term infants who had postoperative apnea after pyloromyotomy. The cases are well presented, and the discussion of the possible mechanisms for the apnea in these infants is comprehensive.

As correctly indicated by the authors, the possibility of apnea immediately after pyloromyotomy in otherwise healthy infants has been described previously. This series of four infants is a good addition to the existing body of knowledge. The whole report, however, must be examined in the proper perspective before generalized recommendations are made.

The authors correctly acknowledge that, in the absence of an apnea-bradycardia monitor, the duration of apnea in patients 1, 2, and 4 may have been overestimated and actually may have been within what would be considered normal limits for this postconceptional age. Patient 3 had significant intraoperative respiratory events, including hemoglobin oxygen desaturation and possible bronchospasm requiring metaproterenol inhalation. Patient 4 had documented preoperative apnea and hypochloremic metabolic alkalosis.

Some aspects of the anesthetic management of these infants require closer examination. These infants underwent a rapid-sequence induction of anesthesia to protect against the risk of aspiration. Although the case report does not indicate the dose of thiopental used in each patient, it generally is acknowledged that infants in this age group have greater thiopental requirements than do older children.[2] Thiopental, however, has a markedly prolonged serum half-life in newborns compared with adults.[3] It was shown recently that the incidence of respiratory complications in otherwise healthy infants 1–6 months of age is greater after thiopental induction when compared with other agents, such as halothane or propofol.[4]

This case report adds to our knowledge of the effect of general anesthesia on the incidence and severity of apnea in infants undergoing pyloromyotomy. To extrapolate the findings in these special patients to all other, presumably healthy, full-term infants undergoing routine elective surgery under an anesthetic technique that does not include barbiturates or opioids is not warranted. The conclusion that "*consideration should be given to short-term apnea monitoring in young full-term infants who undergo general anesthesia*" is not supported by the data in this report. This recommendation would add unnecessary expense, liability, and anxiety to those caring for these infants and to their families. Until further investigations substantiate the authors' belief, this recommendation should be rescinded.

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In Reply:—Hannallah *et al.* have raised several issues concerning our case report that deserve comment. The dose of thiopental used for rapid-sequence induction of anesthesia in our patients ranged from 5.1 to 6.4 mg/kg. It is acknowledged that the serum half-life of thiopental in newborns may be prolonged considerably and that it is possible that this may have contributed to the central apnea seen in our patients within 1 h of the conclusion of surgery.

As to the contention that our conclusion is not supported by the data in the case report, it must be emphasized that the four patients in our report, combined with the previous four case reports, as well as knowledge of the development of respiratory drive in young infants, form the basis for this recommendation. Our four patients were inpatients, mildly to moderately dehydrated on admission. Of the four other reports of apnea in full-term infants, three were scheduled for