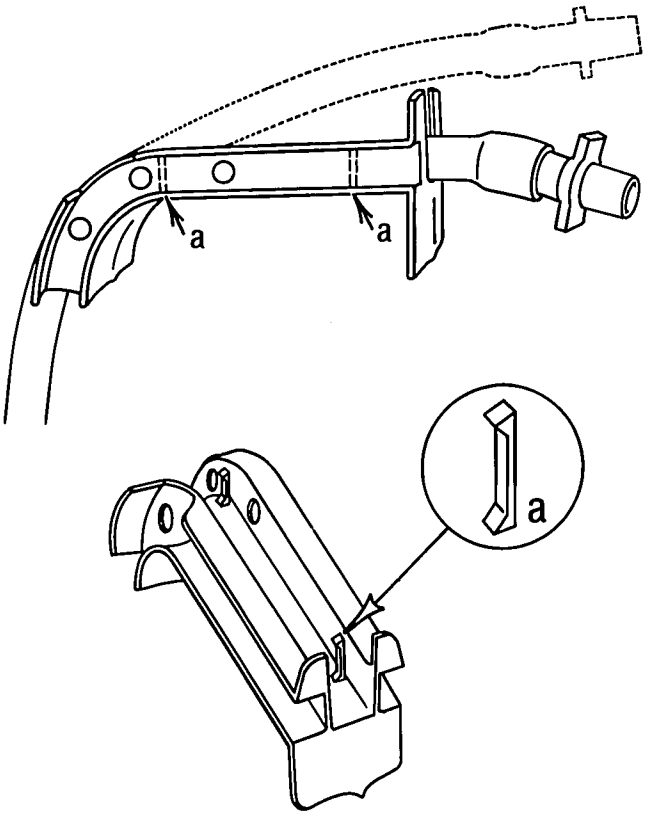

FIG. 1. Illustration showing airway modifications for securing midline placement of endotracheal tube.

optimal positioning of the endotracheal tube without the use of tape, thus allowing for rapid adjustment and removal when necessary.

The Luomanen airway shown in figure 1 is the result of our efforts.* It is a rigid plastic airway patterned on the standard oral airway with the following modifications. It is wider than the standard oral airway with a trough through the center that is designed to hold the endotracheal tube in place. The plastic projections in the trough (labeled (a) in the illustration) effect a friction grip and hold the endotracheal tube firmly in place. There are suctioning channels on either side of the center trough beneath the occlusal surface of the airway. The straight proximal end of the airway is finished with a large lip that sits on the buccal surface of the anterior teeth, securing the midline position of the airway and the endotracheal tube. Taping is not needed.

In use we have found the Luomanen airway to be an excellent device to effect and maintain optimum midline position of the endotracheal tube and thus the fiberoptic bronchoscope during bronchoscopy.

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Potential Interactions between Cimetidine and Amide Local Anesthetics in Obstetrics

To the Editor:—In reference to the August 1983 editorial[1] and lead article,[2] we wonder if intramuscular cimetidine can be recommended yet for emergency cesarean section with the use of epidural anesthesia with lidocaine or bupivacaine, or even where amide local anesthetics have been used in the preceding hours for continuous analgesia. This probably was not the authors' intent, though in our institution the definition of "emergency" can and frequently does allow sufficient time to extend a preexistent epidural block to provide anesthesia for cesarean section. Moreover, occasionally general anesthesia must be used because of inadequate regional anesthesia, despite the attempt to extend the dermatome level for surgery. In the case of lidocaine, cimetidine has been shown to interfere both with hepatic oxidative metabolism and initial distribution (30% increase in peak plasma level) after 100 mg iv over 10 min.[3]

The chemically dissimilar H_2 blocker ranitidine (furan ring structure instead of an imidazole nucleus)[4] might be safe in such circumstances, though to our knowledge its possible interactions with amide local anesthetics, *per se,* have not yet been studied, despite a demonstrated lack of effect on hepatic microsomal enzymes[5] and probably on liver blood flow.[6]

When the current H_2 blockers are used, another reason for i.m. administration, not oral, is the reduced bioavailability of both cimetidine and ranitidine with simultaneous antacid ingestion, at least in high doses.[7,8]

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In reply:—As Moir and McMorland state there is usually ample warning of an impending emergency cesarean section so that it is possible to administer epidural anesthesia or one or two doses of cimetidine. At Medical Center Hospital there are 3 or more h warning for 73% of emergency cesarean sections and a 90-min warning in 81%. The high percentage results from almost all previous cesarean sections being treated by a trial of labor.

However, until we have serum level studies on bupivacaine and lidocaine with and without cimetidine, the administration of cimetidine prior to an epidural is inadvisable, since toxic levels of local anesthetic may result. A clinical trial should be of adequate sample size and should include a large number of underweight parturients, since they frequently need a larger dose of bupivacaine.[1] The epidural doses of bupivacaine and lidocaine for cesarean section are 150–200 mg and 400–500 mg, respectively. These therefore reach the maximum recommended dosages of 200 mg for bupivacaine and 500 mg for lidocaine.[2] Serum levels following epidural anesthesia in the parturient may be increased because of the vascularity of the epidural space and may be close to those following intercostal block in the nonpregnant patient. McGuiness *et al.*[3] recorded mean blood levels of 720 ng/ml following 160 mg of bupivacaine used for epidural block for cesarean section.

Although ranitidine is an excellent H_2 blocker with a longer duration of action than cimetidine, side effects have been described. There are several reports of reduced hepatic blood flow,[4,5] evidence that it inhibits cytochrome P 450,[6,7] and findings that suggest the possibility of interactions with drugs metabolized in the liver,[8] as well as documentation of such interactions in the case of fentanyl,[9] midazolam,[10] and propranolol.[11] In addition to interactions with other drugs, cimetidine also has been associated with cardiac arrest.

The few failed epidurals for cesarean section, which may be kept to a minimum by always injecting the local anesthetic through the needle and not the catheter,[12] may be given sodium citrate before operation. This could be combined with an H_2 antagonist given intramuscularly if there is sufficient time.

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