T. McGraw MD
Children's Hospital
Cincinnati, Ohio

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Emergency airway management (1)

To the Editor:
Bogdonoff and Stone are to be commended on their prudent and practical review of the topic of airway management outside of the operating room.[1] However, the one conclusion that we did not find ourselves in agreement with the authors on concerned the management of the adult patient with epiglottis. Bogdonoff and Stone seem to support routine intubation of the adult with epiglottitis. This differs from our management which has been one of selective intubation.[2]

It has been our institutional experience that adults with epiglottitis always present with severe sore throat and less commonly (29% of patients) is respiratory distress a presenting feature. It is our impression that adults usually come to hospital earlier in the course of the illness than do children, are more able to communicate their distress than are young children and are less likely to present with the dramatic airway compromise seen in the paediatric patient with epiglottitis. The diagnosis in the adult may be safely made with indirect (mirror) examination or with nasal fibreoptic laryngoscopy and, although this is well tolerated in the adult, direct examination of the paediatric airway in the emergency room is ill-advised. Adult patients without evidence of respiratory distress should be provided with supplemental humidified oxygen, intravenous antibiotics are started and they should be observed in a critical care setting. There must be the capability to intervene quickly to secure the airway should airway compromise occur. It is our opinion, shared by others, that "sudden respiratory arrest" usually occurs in patients presenting already *in extremis* or in those presenting in respiratory distress, who are then admitted to hospital without close observation.[3] Our experience, which is supported by a review of 812 cases from the otolaryngology literature, suggests that intubation, properly carried out in adult patients presenting with respiratory distress, will be required in about 20% of patients.[2] Mortality with an appropriately applied regimen of selective intubation should be less than 1% and is most likely to occur in patients presenting *in extremis* or with respiratory arrest.

Edward T. Crosby MD FRCPC
Dennis Reid MB ChB FRCPC
Department of Anaesthesia
Ottawa General Hospital
University of Ottawa
501 Smyth Road
Ottawa, Ontario
K1H 8L6

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Emergency airway management (2)

To the Editor:
I would like to congratulate the authors Bogdonoff and Stone for their excellent review article on emergency airway management.[1] They correctly note that the fibreoptic bronchoscope is useful for confirming endotracheal placement of the ET tube. While they suggest that "visualization of tracheal rings and the bifurcation at the carina provides absolute proof ... ". I would like to relate two cases from my experience that make the above visualization less than absolute proof of correct ET tube placement.

Both cases involved young adult men with acute upper cervical spine fractures. One had associated quadriplegia and required mechanical ventilation for respiratory failure. The other was being anaesthetized for cervical spine infusion. In both cases, the fractures produced a "bulge" in the posterior pharynx which deflected the ET tube anteriorly so that its tip caught on the anterior commissure of the vocal cords. The ET tube was in line with, but external to, the trachea. In one case the intubated patient was transported by air ambulance and mechanical ventilation was continued for a total of 24 hr with the ET tube external to the trachea.

Both cases survived their episodes of mechanical ventilation without mishap. I bring these cases to your attention because an ET tube caught on the anterior com-

missures can be surprisingly difficult to detect and because the potential for aspiration is high. It can also be difficult to manoeuvre the ET tube past the cords in the presence of a posterior pharyngeal mass. A high index of suspicion is necessary when intubating the trachea in patients with high cervical fractures, or whenever the cuff seems to take more air than usual to provide a seal.

Dr. R.W.J. Ford
Department of Anaesthesia
University Hospital
Shaughnessy Site
4500 Oak Street
Vancouver, B.C. V6H 3N1

REFERENCE

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REPLY

Thank you for the opportunity to reply to the written comments of Drs. Crosby, Reid, and Ford.

We appreciated the comments on management of the adult patient with epiglottitis from Drs. Crosby and Reid. Their experience is clearly greater than our own and their additional insight was welcomed. Perhaps it helps to clarify the rather unpredictable nature of the course of this disease process. In tertiary centres with a referral practice such as our own, one may well be seeing patients later in their course and thus more subject to the airway disasters and higher mortality rates due to mismanagement that are reported in other large series.[1,2] As long as patients not in need of immediate intubation are observed in a critical care setting with the availability of experienced personnel, expectant management is clearly indicated as Drs. Crosby and Reid have explained. We only wish to reiterate that unlike children, not all adults with epiglottitis can be ventilated by mask if and when the need to do so should arise.

Dr. Ford has presented two interesting case reports that help to remind practitioners of the continuing need to check and recheck tube placement. We have had similar experiences with tubes trapped in the anterior commissure and being difficult to advance. We have had this problem with blind nasal intubation in elective cervical spine fusion cases and have noted excellent capnographic waveforms and bilateral breath sounds yet some retained ability of the patient to phonate. We believe that use of the fibreoptic bronchoscope is definitive confirmation of intubation in such a case. We look for a patent opening at the end of the endotracheal tube while the bronchoscope is still within the distal lumen of the tube. Any acute angulation of the tube as Dr. Ford has described would be identified by seeing pink mucosa and not a darker tracheal lumen as should be seen while the scope is still within the endotracheal tube. If an unobstructed and patent tracheal lumen is not seen, the bronchoscope should be advanced into the trachea and serve as a stylet for advancement of the trapped tube into the trachea. Quantification of the distance of the endotracheal tube above the carina is possible with the bronchoscope. With the tip of the scope at the carina, one holds the shaft of the bronchoscope at the proximal end of the endotracheal tube. After withdrawal of the scope to the point where the distal tip of the tube just becomes visible, one can measure how far the fingers holding the shaft of the scope have moved. This permits exact measurement although an experienced endoscopist may well be able to judge this visually.

David L. Bogdonoff MD
David J. Stone MD

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Accidental total spinal block (1)

To the Editor:

There are some aspects of the Clinical Report "Accidental total spinal block: a complication of an epidural test dose" which deserve comment.[1] During the last 30 yr we have seen three cases of high blocks after a single shot subarachnoid injection with 50 mg lidocaine 5% for Caesarean section.[2] It is known that during pregnancy women need $^1/_3$ less anaesthetic, in a subarachnoid block, to reach the same level of analgesia than when they were not pregnant.[3] However, in some rare instances, even these smaller doses, especially when combined with lidocaine, may produce a high block, with hypotension and apnoea.

The accident reported cannot be called a "total spinal" as the apnoea resulted from hypotension and not respiratory muscle paralysis: spontaneous respiration restarted as soon as the decreased blood pressure was corrected with a vasopressor and fluids. It seems that uterus dislocation to the left was not done although it may have benefited the baby by increasing venous return. A total spinal usually results when a massive epidural dose of local anaesthetic is inadvertently injected into the subarachnoid space. The drug reaches the cervical segments and blocks the intercostal and phrenic nerves and the apnoea lasts for one or two hours, depending on the agent.

In the same situation, we would have managed the C-section with the spinal, with 100% O_2 given by mask and assisted ventilation, if needed. Midazolan 5 mg would have been used to calm the patient. If the block did not last long enough for the surgery, we would supplement it either with 50–100 mg of fentanyl or with general anaesthesia.