An intracranial complication of nasogastric intubation

Case report

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A case is presented in which a patient who had suffered severe facial fractures erroneously had a nasogastric tube placed in the intracranial cavity. It is believed that no such complication of nasogastric intubation has been reported previously.

KEY WORDS • head trauma • skull fracture • nasogastric intubation

Complications from nasogastric intubation have included sinusitis, esophageal stricture, laryngeal obstruction, otitis media, rupture of esophageal varices, rupture of the esophagus or stomach, and inability to remove the tube. We know of no reported cases in which nasogastric intubation has directly resulted in central nervous system damage, and therefore we present the following case.

Case Report

This 34-year-old woman was said to have fallen approximately 60 feet onto concrete landing on her face. Within minutes of the accident she was transported via a paramedic first aid car to the hospital emergency room.

Examination. Her vital signs were unstable. Initial examination demonstrated that the major trauma was to the head and neck; there was paratracheal soft tissue swelling, obvious facial displacement and bleeding from the nose and external ear canals. Although a detailed neurological examination was not done, the patient was decerebrate, had disconjugate gaze with fixed dilated pupils, no corneal reflex, and central neurogenic hyperventilation.

Because of increasing upper airway obstruction, oral-tracheal intubation was attempted but was unsuccessful. Therefore a tracheostomy was performed. Simultaneously a nasogastric tube was inserted and attached to Gomco suction.* At completion of the tracheostomy the patient was noted to be flaccid, with disconjugate gaze and fixed dilated pupils, and ataxic respiration. Portable skull x-ray films demonstrated that the nasogastric tube had been inserted through the cribriform plate and into the intracranial cavity. The patient’s condition deteriorated neurologically, and she died within 1 hour.

Discussion

The routine insertion of nasogastric tubes in trauma patients appears to be becoming a standard procedure. Although the indications for such a procedure are not questioned in this communication, the techniques should be reconsidered. In dealing with patients with obvious facial and basal skull fractures the emergency room physician should be alerted to the fact that the region of the cribiform plate in the anterior fossa may be fractured; if the dura were also lacerated it would not be difficult to pass a nasogastric tube into the intracranial cavity if directed cephalad through the nares. In this patient who was moribund at the time of intubation it is very doubtful that this complication influenced her clinical course, but in patients who have severe facial fractures without central nervous system damage, this complication could be disastrous. Therefore it may be suggested that in patients with evidence of anterior basal skull fractures a reasonable alternative for gastric decompression (if indicated) could be to pass the tube under direct vision with a laryngoscope or pass the tube through the oral cavity.

References


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