Iatrogenic Pneumocephalus in a Conscious Non-Traumatic Patient: A Rare Complication of Nasogastric Tube Placement

Ryan Witcher, OMS-III[1]; Marcela Morán, MS-III[2]; Jordon G. Grube, DO[2]

[1]Lake Erie College of Osteopathic Medicine - Bradenton • [2]Albany Medical Center Department of Otolaryngology

Abstract

Background

While insertion of a nasogastric tube (NGT) is a common procedure in clinical settings, it can lead to multidisciplinary complications involving the head, neck, and thoracic regions, with one rare but serious complication being iatrogenic NGT pneumocephalus, first reported in 1974.

Case Synopsis

A 66-year-old male presented to an outside hospital with symptoms of a small bowel obstruction s/p a fall 3 weeks prior. An attempt at a NGT placement caused headache and signs of a left CN III palsy. CT scans revealed a significant defect in the cribriform plate, left subdural and subarachnoid hemorrhages, and pneumocephalus along the anterior and middle fossa. The patient underwent an operative repair of the left cribriform 3 mm x 5 mm defect with CSF leak. This involved wide endoscopic approach to the skull base with repair of the cribriform plate defect using free mucosal graft from the middle turbinate.

Discussion

Iatrogenic NGT insertion has been reported in past literature where contributing factors include trauma and previous sinonasal surgery. Cases describing instances of delayed identification of NGT pneumocephalus due to imaging artifact or difficulty identifying emerging neurological symptoms necessitate a modest approach to sinonasal operations. Even with no predispositions, this case emphasizes the need for skilled technique with NGT insertion and an understanding of the presenting symptoms of pneumocephalus and CSF leak.

Conclusion

This text discusses the rare complication of a non-traumatic NGT pneumocephalus on a fully conscious individual with no predispositions. Similar cases are reviewed, and methods to reduce potential for pneumocephalus secondary to sinonasal surgery are discussed.