

# Misguided urinary catheter: an uncommon complication of a common solution

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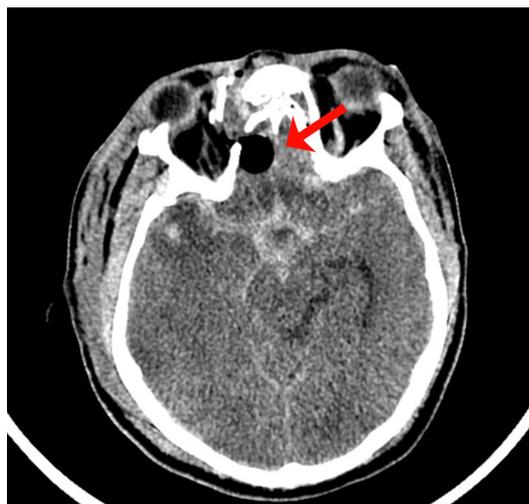
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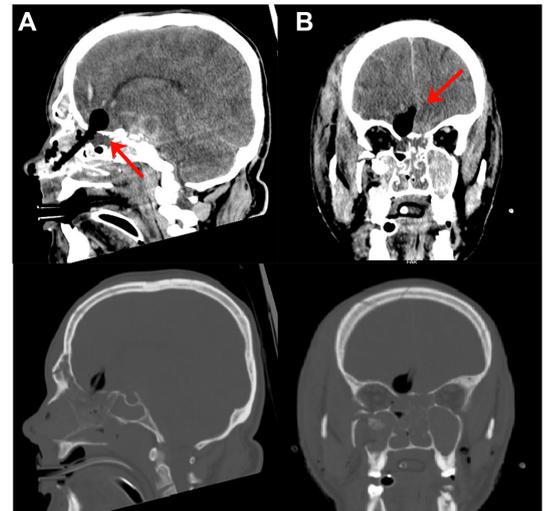
## DESCRIPTION

A 61-year-old man was wheeled in to our emergency triage bleeding profusely from his mouth and nose in an unconscious state. His Glasgow Coma Scale was 7 and was intubated for airway safety. A failed anterior nasal packing was followed by insertion of a Foley urinary catheter through the right nostril to secure posterior nasal packing and haemostasis. CT of the brain following nasal packing showed diffuse traumatic subarachnoid haemorrhage and basifrontal contusions with multiple fractures of the anterior cranial fossa, cribriform plate including the frontal sinus. Multiple specs of air in the frontal lobe was initially mistaken as pneumocephalus (Hounsfield unit  $-971$ ) (figure 1). The Foley catheter had inadvertently found its way to the brain through the cribriform plate, and the bulb was inflated just above the defect (figure 2). The catheter was deflated and removed soon after imaging. The patient underwent a right frontotemporoparietal craniectomy with basal repair for his severe head injury. The patient had a prolonged hospital stay and finally succumbed to severe head injury.

Facial trauma is commonly associated with fractures of the anterior skull base, frontal sinus, cribriform plate, ethmoid sinus, with profuse bleeding from the oro-nasal orifices. Although posterior nasal packing is contraindicated in such patients, it is often the first line of management in an emergency setting prior to arterial ligation/embolisation.<sup>1</sup> Urinary catheters are the most common balloon catheters used for this purpose. While cranial migration



**Figure 1** CT scan axial view showing the inflated Foley bulb, which was mistaken as pneumocephalus.



**Figure 2** CT of the brain with fractures of the cribriform plate, ethmoid sinus and misguided Foley catheter with inflated bulb lying just above the cribriform plate with their corresponding bone windows. (A) sagittal view and (B) coronal view.

of nasogastric tube is not an uncommon occurrence, only five cases of accidental urinary catheter passage into the intracranial cavity have been reported.<sup>2</sup> It is usually associated with a high mortality of  $>50\%$  and complications such as intraparenchymal haemorrhage, hemiparesis, meningitis and cerebrospinal fistula.<sup>3</sup> In the event of an absolute necessity to introduce these endo-nasal apparatus, it should be under direct or endoscopic visualisation confirmed with fluoroscopy. Thus, fractures of the anterior cranial fossa are a contraindication for endonasal procedures and should be dealt with extreme caution.

## Learning points

- ▶ Anterior cranial fossa and cribriform plate fractures are a contraindication for posterior nasal packing
- ▶ Passage of endonasal tubings into the brain parenchyma is associated with high mortality and complications such as haemorrhage, meningitis and Cerebrospinal Fluid (CSF) fistulas.

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