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Introduction

Dislodgement of teeth is not uncommon in anaesthesia and intensive care. This is usually due to airway manipulation during intubation for surgical procedures or resuscitation. Many patients have risks factors for dislodgement of teeth, such as pre-existing dental pathology, poor dentition, restorative dental work and features of a difficult airway.

Objective

To emphasize the importance of dental assessment and maintenance of oral hygiene in the ICU.

Case Study

A 67-year-old man, known to have poor dentition and loose teeth, was emergently intubated for low conscious level due to subdural haematoma with mass effect. He underwent burrhole surgery for decompression but remained intubated as he developed pneumocephalus and his conscious state did not improve. Subsequently, his upper incisor was noted to be dislodged, 2 days after admission to the Intensive Care Unit (ICU). Direct laryngoscopy, chest X-ray and abdominal X-ray was performed and there was a 1cm calcific density projected over the left abdomen, likely the dislodged tooth.



Serial abdominal X-rays (Figure 1 &2) showed slow transition of the calcific density in the colon, confirming the likely identity of the tooth.

Dental assessment by a dentist was carried out and although there was a slightly mobile left lower premolar, it was assessed to have a low risk of dislodgement during extubation.

The GCS of the patient improved and he was extubated uneventfully. He did not present with any abdominal symptoms of intestinal obstruction or perforation and it was assumed that the tooth had been egested uneventfully after a few days.

A referral was also made to General surgeons and their opinion was as the tooth has transited past the ileocaecal valve at the time of review, it is unlikely to cause obstruction.

Consequences

Dislodgement of loose teeth or dental prostheses can occur without any signs or symptoms in the critically ill patient. These patients may have low conscious levels or are sedated and intubated so they are not able to communicate to the nursing staff that dislodgement has occurred. If loose teeth or dental prostheses that have been aspirated into the tracheo-bronchial tree chronic lung infections, asthmatic symptoms, lung collapse or lung abscess can develop. These need to be identified and removed as soon as possible before it leads to detrimental complications.

If the loose teeth are ingested, it typically passes through the digestive system and is expelled in the stool. However, swallowed dentures may lead to hollow viscus necrosis, perforation, fistulae formation, bleeding and obstruction.

Discussion

As described by N Yokoo *et al*, the incidence of aspiration or swallowing of foreign bodies in the ICU setting is estimated to be 0.23%. Although the incidence is low, there can be adverse consequences. Therefore, this is an important part of the care of a critically ill patient that should not be overlooked. There have been multiple reports of loose teeth or dental prostheses that have been aspirated into the tracheo-bronchial tree which can lead to problems such as chronic lung infections, asthmatic symptoms, lung collapse or lung abscess. These need to be identified and removed as soon as possible, usually by flexible or rigid bronchoscopy as they serve as a nidus of infection. Rarely, open thoracotomy may be required for removal.

In our ICU, there is at least once daily oral toileting for all patients. This is performed more frequently for patients who are on nasogastric feeding or are unconscious. Oral toileting can be done by one of the 2 methods--using a disposable pre-prepared oral swab stick with sodium bicarbonate or with swabs soaked with chlorhexidine 0.2% mouth wash. Any nursing staff can easily carry out this procedure and it includes simple daily inspection for loose teeth, sores, ulcers or thrush.

Conclusions

In the critically ill patient, in whom there are many medical issues to sort out, it is still important to care for the dental health of the patient, to avoid further complications. Basic dental assessment should be performed routinely and regularly by nursing staff, as soon as the patient is stabilized. Adequate training and oral care protocols should be in place. Loose teeth or dental prosthesis should involve a dentist for evaluation and removal.

References

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