

## CASE REPORT

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# Dental braces bracing a throat pack to cause difficulty in its removal

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## ABSTRACT

We present an unusual case of dental braces entangled into a throat pack, thus making it impossible to remove it from the mouth cavity of a patient. The patient, who was emerging from anesthesia, had to be reanesthetised, to enable removal of the pack.

Key words: Throat pack; anesthesia complication; dental braces

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## INTRODUCTION

Throat packs are commonly used in patients undergoing oral, nasal and dental procedures. We encountered difficulty in its removal at the time of extubation of trachea in a patient who was having dental braces fixed to lingual surface of her teeth. We found our throat pack was entangled in a hook of the braces that led to difficulty in its retrieval. The cause of this difficulty in removal of the throat pack is unusual and to our knowledge no such event has been reported in the literature. This case report emphasizes the need of extra care while removing the throat pack to avoid damage to these costly braces that may result in embarrassment to the anaesthetist and/or lead to a compensation claim.

## CASE REPORT

A 23 years old female patient presented to our hospital with nasal deformity secondary to road side accident. She was scheduled for elective open septorhinoplasty under general anaesthesia. Her weight was 74Kg and height 157cm. Her airway examination and neck movements were normal. She was wearing lingual dental braces as part of her treatment for dental deformity. All baseline investigations e.g. haemoglobin, haematocrit, platelet count, urea, creatinine, prothrombin and APTT were within normal limits. She was graded as ASA 1 physical status. She was

advised to be fasting from midnight and was premedicated with 2mg tab. lorazepam two hours before surgery with a sip of water.

On arrival in the holding area of the operating room, an IV line was established with a 20G cannula on the dorsum of the hand. In the operating room, ECG electrodes, pulse oximeter probe and non invasive blood pressure cuff were applied. She was pre-oxygenated with oxygen 6 l/min for about 3 minutes. Anesthesia was induced with inj. propofol in the dose 2 mg/kg and fentanyl 2 µg/kg. For endotracheal intubation, neuromuscular block was attained with cisatracurium in the dose of 10 mg. She was intubated without any difficulty with 7.5 mm internal diameter RAE (Portex®) cuffed endotracheal tube (ETT). After confirmation of proper position of the ETT, it was fixed at 21 cm in the midline and intermittent positive pressure ventilation of the lungs was started with anesthesia machine (Datex Ohmeda AS 5™). To avoid soiling of the airway, the throat of the patient was packed around the ETT with a cotton ribbon gauze pack by one of our trainee doctor and the tail of the pack was left outside the mouth and tied to the ETT. To remind the presence of pack in the throat, a sticker was applied to the ETT connector quoting "Caution! throat pack inside". The placement of the throat pack was notified in the anesthesia record sheet and also endorsed to the circulating nurse. Anesthesia was maintained with sevoflurane in oxygen-air mixture and intermittent

doses of fentanyl. The intraoperative course was uneventful and duration of surgery was 110 minutes.

At the end of the surgery, residual neuromuscular block was reversed. On establishment of adequate breathing we planned to extubate the trachea. The oral cavity was cleared of any blood clot by using a flexible suction catheter size 14F and removal of throat pack was attempted by applying a gentle traction on the tail of the throat pack. We noticed unusual resistance in retrieving the throat pack. We planned to retrieve it under direct vision with the help of a Mcintosh laryngoscope and Magill's forceps. To get a deeper plane of anaesthesia, inspiratory sevoflurane concentration was increased to get its end tidal concentration 3-4%. On attaining adequate depth of anaesthesia, laryngoscope was placed in the oral cavity and found that the threads of the throat pack were entangled in a hook of the lingual dental braces near the second molar tooth. Throat pack was gently freed from the hook and was removed after some difficulty. Residual blood clots were removed and trachea was extubated. The patient was sent to post anaesthesia care unit where she stayed for about 40 minutes and was shifted to the ward with full recovery.

## DISCUSSION

Lingual braces are used by orthodontists to straighten the tooth position. They consist of wire brackets that are attached to the lingual side of the teeth. They are usually invisible from outside and very costly. This is an unusual and unexpected cause of difficulty in removal of throat pack and should be considered in the patients with lingual dental braces, undergoing surgery under general anaesthesia requiring endotracheal intubation and throat pack.

Throat packs are commonly used under general anaesthesia in the surgery in the oral or nasal cavity and procedures on nasolacrimal duct. The common purpose of their use is to absorb blood or debris, body secretions or external fluids and prevent the seepage into respiratory tract.<sup>1-3</sup> Occasionally, they are used to provide seal around the ETT or to stabilise the ETT or supraglottic devices.<sup>4-6</sup> We tried to search the literature to find out the reported complications of throat pack but did not find any report of difficulty in its retrieval due to entanglement in a hook of a dental brace. The reported complications are pain in the throat<sup>1, 7-10</sup>, injury to lingual and hypoglossal nerve<sup>11</sup>, unilateral laryngeal and hypoglossal paralysis<sup>12</sup>, soft palate paresis<sup>13</sup>, forgotten throat pack leading to airway obstruction<sup>14-24</sup> and unilateral pharyngeal plexus injury.<sup>25</sup>

We recommend that during pre-anaesthesia assessment, we must enquire about the presence of dental braces, especially the lingual braces, and have more thorough inspection to find out any uncovered hook. Throat packs, if used, should be gently removed under direct vision, as an undue traction on it out may result in damage to the costly braces. Such incident may be an embarrassment to the anaesthetist and is likely to result in a compensation claim.

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## DR PRANAV BANSAL JOINS APICARE

Dr Pranav Bansal has recently joined APICARE as assistant editor. He is currently serving as Associate Professor at Dept. of Anaesthesiology, Teerthanker Mahaveer Medical College, Moradabad, U.P. (India). He is a member of editorial board of the 'Internet Journal of Medical Education' and 'Internet Journal of Anaesthesiology'. He is also a peer reviewer for 'Journal of Local and Regional Anesthesia', 'Journal of Pain Research', Dovepress, New Zealand

As well as 'Kathmandu University Medical Journal' of Nepal. He will be responsible for our permanent chapter, 'Cliniquiz'. This page is based upon a clinical case scenario, a technological development or newer trends in the practice of the relevant fields, followed by MCQ's of one best option type.

We welcome Dr Pranav Bansal to the world of APICARE.