

Operation theatre procedure awareness for an anaesthesiologist: A vital weapon to combat the emergencies in anaesthesiologist's armoury

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It's been a well-known fact that anaesthetist and surgeon work as a team for the betterment for the patient. There are various situations where anaesthetists have provided the lifesaving suggestions to the surgeon in a crux situation. Airway manipulative procedures are a difficult situation for the anaesthetists and surgeon both as the working field is same; so the time is the limiting factor in these cases because more is the time taken more are

the chances for hypoxic episodes. Distally located lower respiratory tract foreign body removal especially in pediatric cases are tricky situations and are the most challenging and time consuming. In these cases there are various incidences where the results are not positive because of some or other reason and the patient ends up in thoracotomy procedure. In this article we intend to discuss an interesting case where an anaesthetist's knowledge of different procedures & instruments in the operation theatre results in a success of nearly failed procedure.

Key Words: Bronchoscope; Foreign body; Jet ventilation; Cystoscope; Ureteroscope

INTRODUCTION

Removal of a tracheal or bronchial foreign body is a common emergent surgical procedure in infants and children. The anesthetic management can be challenging and has been described. Organic Foreign body removal from lower respiratory tract of pediatric patients poses a great challenge to the surgeon as organic foreign bodies swell up and obstruct the bronchial passage. Distal lower respiratory tract foreign bodies are the most-tricky ones, sometimes posing the greatest challenge and leading to failure of the procedure subsequently leading to thoracotomy. We report our experience where a nearly failed procedure which was converted to a successful foreign body removal because of an interesting suggestion by a senior anaesthetist to the surgeon.

CASE REPORT

An 8 month old male child came in emergency room with the history of intermittent cough and according to the Relatives there is history of ingestion of groundnut. Patient was afebrile with pulse rate of 122/min; respiratory rate of 24/min and saturation at room air of 95%-96%. He has decreased air entry in the base of lung in left side. X-ray chest was normal but CT scan was suggestive of foreign body in the terminal bronchiole left lower lobe. Decision of bronchoscopic removal was made and patient was shifted to operation theatre. Standard multimotors were attached and patient was premedicated with Inj Atropine 20 µgm/Kg *i.v.* and Inj Midazolam 0.05 mg/Kg *i.v.* Induction of anaesthesia was achieved with Inj Ketamine 1mg /Kg *i.v.* and Inj Succinylcholine 1.5 mg/Kg *i.v.* Fiberoptic bronchoscopy was done to localize the foreign body. Rigid bronchoscope was introduced and ventilation was achieved with jet ventilation through the side port of rigid bronchoscope.

Anaesthesia was maintained with intermittent Inj Succinylcholine 0.5 mg/Kg *i.v.* and inj atropine 10 µgm/Kg *i.v.* foreign body was visualized in the terminal bronchiole of lower lobe of left lung. Multiple attempts were done to reach up to the foreign body but due to distal location of the foreign body all the attempts failed. The surgeon tried for nearly 2 h but with negative outcomes. Finally the decision was made to postpone the

procedure. At this crucial time, the senior anaesthetist came up with an interesting idea of using a ureteroscope to reach to the foreign body.

The surgeon liked the idea and immediately the urology team on call was called and asked for their opinion. They also agreed to give this interesting idea a try as the patient was stable throughout the procedure. The urologist then attempted the removal of foreign body under ureter scope guidance and succeeded in the very first attempt and removed the foreign body with the forceps. Hydrocortisone Inj was given 20 mg intravenously. The surgeon then visualized and examined the complete airway tract and then in the absence of edema and any trauma, we decided not to intubate the patient. Patient was nebulized and steroid cover was continued in the postoperative period to decrease possible subglottic edema. Postoperative period was uneventful. Patient was discharged on the second day.

DISCUSSION

Anaesthesia for rigid bronchoscopy in children is a challenging procedure for anaesthesiologists as the airways in pediatric patients are narrower and desaturation is faster [1,2]. Also, the surgeon and the anaesthesiologist have to share the same field of work posing difficulty in ventilation [3]. Intra operative complications of bronchoscopy include hypoxemia, arrhythmias, bronchospasm, severe laryngeal edema requiring tracheotomy or re-intubation, tracheobronchial injury, pneumothorax, pneumo-mediastinum and rarely cardiac arrest etc. leading to significant morbidity [4]. Surprisingly in spite of these potentially life threatening complications, the reported mortality rates are quite low (0.42%) because of advances in Anaesthesia and endoscopic equipment's [4,5]. Sometimes anticipated intraoperative episodes of severe hypoxia demand sudden change in surgical plan as in our case. Mostly the respiratory physician is successful in removing these foreign bodies in the most difficult of situation because of the advances in instruments available. The respiratory physicians who perform these procedures are usually not aware about the availability of options in instruments readily used in operation theatre in other specialties.

Anaesthetist being the head of operation theatre can suggest the surgeon to try an out of the box idea according to the situation which can be a decisive suggestion which can turn the course of the procedure from failure to

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success like in our case. The availability of instruments and their knowledge thus is of prime importance to the anaesthetist who can prevent a procedure to be a failure and can prevent thoracotomies in these young patients.

CONCLUSION

Bronchoscopic removal of F. B. through oral route at times may be impossible due to its distal location and may require thoracotomies. Cooperation and communication between the surgeons and anesthesiologist is the key to safe and successful outcome in these circumstances. Anesthetist being a vital part of the team and their awareness of the instruments available in operation theatre can be really helpful in providing interesting suggestions leading to the success of the procedure. Thus we strongly suggest the anesthesiology fraternity to take active interest in the understanding of various surgical instruments and procedures for the betterment of the patient.

CONFLICTS OF INTEREST

The author declared no conflict of interest

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