

## CASE REPORT

# USE OF ADRENALINE NEBULIZATION FOR LARYNGEAL OEDEMA

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### SUMMARY:

A 10 years old ASA I boy was planned to undergo general anaesthesia for thyroidectomy. At recovery he was found to have laryngeal oedema. When it did not respond to various conventional therapies, nebulisation with adrenaline solution was undertaken with remarkable results.

### CASE REPORT:

A 10 years old boy was planned for thyroidectomy under general anaesthesia, at MH, Rawalpindi, on 18 October 2000.

One pre-anaesthetic examination he was found to be of low build. He weighed 20 kg and was euthyroid clinically. Lower limit of the thyroid gland was reachable. Trachea was found to be central, and kinking / obstruction or deviation was ruled out radiologically. All laboratory investigations were within normal limits. He was placed in ASA physical status I.

He was pre-medicated with pethidine and atropine before operation. General anaesthesia was administered using pentothal for induction, atracurium 10 mg for relaxation, and halothane in nitrous oxide, oxygen for maintenance. He was intubated with 6 mm internal diameter endotracheal tube made of polyvinylchloride (Mallinckrodt Z-79 standard implant tested.) in a singular attempt. The operator while inserting the tube felt a negligible resistance. Cuff was inflated with 1.5 ml of air to prevent audible leakage around the tube.

General anaesthesia continued for about 1 hour, during which myorelaxant was not repeated, and about 400 ml of 5% Dextrose / 0.9% Saline solution was administered intravenously. Considering the duration and dosage of the myorelaxant given, reversal with neostig-

mine was withheld in the end. While anaesthesia was still maintained after dressing of the incision, he was allowed to breathe spontaneously, and once regular breathing with adequate tidal volume was established he was extubated after suctioning of secretions from the oro-pharynx under direct vision. The vocal cords were visualized and confirmed to be moving at direct laryngoscopy. The patient was placed in the right lateral position, and inhalational anaesthetics were switched off.

He breathed smoothly for about one minute after which he started producing inspiratory croup and making jerky movements, which kept on worsening, Senior help was summoned immediately. Considering possibility of relapse of myorelaxation, he was given inj neostigmine 1.25 mg with inj atropine 0.5 mg. His condition did not improve, and it became impossible for him to maintain his saturation even with 100% O<sub>2</sub> with facemask. He was carefully observed for another ten minutes, after which a decision was made to re-intubate him. So endotracheal intubation was done with 5mm internal diameter non-cuffed tube, after giving inj suxamethonium 10 mg and sedating with inj midazolam 3 mg. He was manually ventilated till his muscle power returned. The patient became comfortable and breathed smoothly afterwards. Inj hydrocortisone 200 mg was given at this stage intravenously.

After about 1 hour, the signs of intolerance to the endotracheal tube were evident, so it was removed to re-assess. Within about half a minute the patient again started producing inspiratory crouping sounds, which kept on worsening and patient became more distressed. However he was able to maintain saturation on supplement oxygen given through facemask this time.

Direct laryngoscopy revealed signs of laryngeal

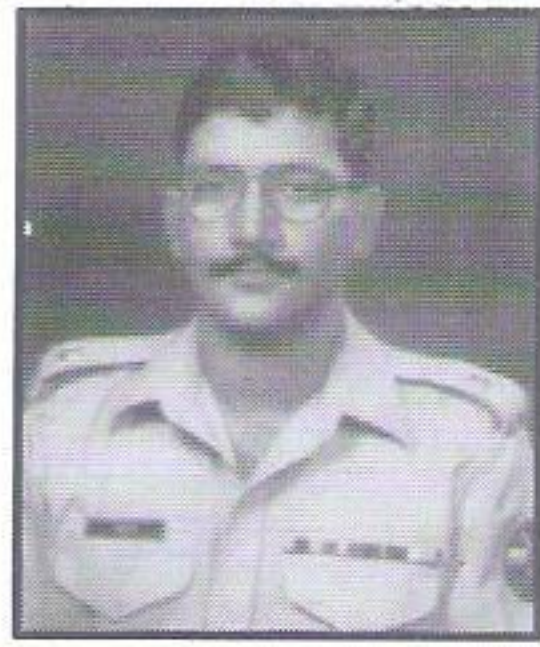


oedema, so after 15 minutes wait-and-see, we started to nebulise him with adrenaline 0.5 mg 1:1000 to 4 ml normal saline solution in the drug chamber with a view to achieve vasoconstriction and reducing the oedema in the airway. Nebulised particles of the drug were closely administered along with oxygen through Hudson facemask. The drug sharply produced an effect, remarkably improving the respiratory distress of the patient. Within 10 minutes his distress was over and he fell asleep. His haemodynamic parameters remained stable during drug administration. Crouping reduced to about

2%, and vanished completely after about half an hour. The boy was nursed in the intensive care unit subsequently for close observation, and shifted to ward the next day.

### **CONCLUSION:**

Adrenaline nebulization was found to be very effective in this patient having severe laryngeal odema. Further trials are required to establish its role in this perspective.



*Maj Amer Majeed passed his FSc Examination in 1988 from Lawrence College, Murree. He graduated from Army Medical College Rawalpindi in 1994. He remained member of the editorial board of AMCOL (AM College Magazine) and was an active member of the AM College Computer Club during cadet service. He qualified FCPS-I examination in anaesthesiology in March 2000. Presently he is under going post graduate training in the final phase of Grading Course in anaesthesia at AFGMI, Rawalpindi.*

## **PHUS-PHUS-IOLOGY**

A book summarized the art of anesthesia as “put down drip, put down a tube and give plenty of oxygen”. To a trainee who has recently joined the specialty, this phrase is very satisfying, for hours and hours he has to sit down and squeeze the anesthesia bag, as this is his link with the anaesthetized patient. He experiences long hours of boredom between a few moments of terror.

At Department of Anesthesia, CMH Rawalpindi, which is the home of military anesthesia in Pakistan, a genius anesthetist devised a way to amuse these junior trainees during these long hours of boredom. A vocabulary is devised to describe various states of these colleagues. It got popularized very rapidly among the trainees. A need was felt to share it with the others. Some of the phrases in this new vocabulary are described here.

- (1) **Phus-phus-iology** is the art of trainee's anesthesiology;
- (2) **Phus-phusia** is the trainee who squeezes the bag.
- (3) **Oath-phusia** is the trainee who is found to be performing very well.
- (4) **Khush-Phusia** is the trainee who is found to be happy for some reason.
- (5) **Rus-phusia** is the trainee who is annoyed with his seniors but has to keep quiet.
- (6) **Rul-phusia** is the trainee who is surplus in an OT and is picked up by multiple seniors one by one for assistance (bag-duty)
- (7) **Thus-Phusia** is the trainee who is found to be very tired and drained.
- (8) **Ghus-phusia** is the trainee who is found to be missing from the OT and seeking in the DMO room.
- (9) **Phul-phusia** is the trainee who is eating a lot and expanding day by day in girth.
- (10) **Phut-phushia** is the trainee who is found to be on a bank from the OT.
- (11) **Lut-phut-phusia** is the trainee who is found to be on bunk habitually.

*by: Maj Amer Majeed*