

An Unusual Presentation Of Thyroid Tumour And Its Anaesthetic Management

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Abstract

Airway obstruction due to thyroid disorders usually occur postoperatively either due to damage to nerves or haematoma or tracheomalacia. Goitre presenting as airway obstruction is usually rare. Here, we report such a case of sudden onset goitre (malignant) presenting as airway obstruction due to internal bleeding. The anaesthetic management for tracheostomy and postoperative follow-up are also discussed.

CASE REPORT

A 20 year old female, weighing 45 kilograms, presented to the surgery department with history of painful neck swelling of 15 days duration. She also gave history of difficulty in swallowing and change in voice. General examination revealed a pulse rate of 110 beats per minute, blood pressure 110/70 mm Hg, clear chest, pale mucosa. Local examination revealed a huge anterior neck swelling, measuring 10x15 cms extending beyond the posterior borders of sternocleidomastoids bilaterally. The swelling was tender, fixed and of varying consistency. Laryngeal framework could neither be seen nor be palpated. Carotid vessels could not be palpated. There was no stridor.

8 hours after admission, patient suddenly developed breathlessness. The swelling increased in its size, and stridor was noted. An emergency tumor debulking and tracheostomy were planned and shifted to operating room.

In the operating room, patient was dyspnoeic, unable to lie down, speak or swallow. Stridor was grossly evident (inspiratory). Her pulse rate 130 beats per minute, blood pressure 120/70 mm Hg, respiratory rate 40 per minute, SpO₂ 85 at FiO₂ 0.21, crackles present. She had a mouth opening of 3 fingerbreadths.

Inj. glycopyrrolate 0.4 mg IV was given. 4 ml of 4% lidocaine was nebulized using steam nebulizer for 5 min in sitting position. Supplemental oxygen was given. Injection Thiopentone 150 mg IV was given slowly. As patient fell asleep, she was put in recumbent position. Using size 2 miller blade, direct laryngoscopy was done and 7.0 mm

endotracheal tube was inserted into the trachea without difficulty. Patient had minimal bucking during insertion of endotracheal tube. After confirming position, patient was paralyzed with atracurium and maintained on N₂O+O₂. Endotracheal suctioning was done.

Both the general surgeons and the ENT specialists operated on the patient. After proper positioning, a transverse incision was made in the neck. As there was profuse bleeding from the incision site, they withheld the plan of debulking and went ahead for tracheostomy. Due to huge swelling size, standard tracheostomy tube was found too small (in length) to be placed inside trachea. So, a 7.0 mm ID cuffed endotracheal tube (PVC) was used as a tracheostomy tube. The marking was 14 cm at the level of the skin surface.

At the end of the surgery, neuromuscular block was reversed with neostigmine and glycopyrrolate patient was awake. Her face became plethonic due to venous congestion.

Postoperatively, she was put on steroids, mannitol and chemotherapy started after tissue diagnosis (moderately differentiated small cell type anaplastic carcinoma thyroid).₂

FOLLOW-UP

On 2nd postoperative day, patient had obstruction of endotracheal tube and developed cyanosis. She was immediately resuscitated but tube was not changed. She had similar episodes on the next day and successively resuscitated. On 14th postoperative day, as the swelling size significantly decreased, endotracheal tube was replaced by cuffed tracheostomy tube 7.0 mm 2 days later, patient died due to uncontrollable profuse bleeding through tracheostomy

tube.

Figure 1

Figure 1: 4th post operative day with endotracheal tube in-situ via tracheostomy site



Figure 2

Figure 2: 10th post operative day



Figure 3

Figure3: 10th post operative day



DISCUSSION

This patient had a lot of features to anticipate difficult intubation, which are – goiter producing mechanical compression of larynx and distorted airway; fixation of larynx due to malignant infiltration, hoarseness of voice, unable to lie down; progressive bleeding; stridor (air hunger) and airway edema (venous congestion).³

Intubation in the presence of distortion or compression of trachea may cause complete obstruction if the orifice of the tube impinges on the tracheal wall or if the lumen of the tube is occluded where it passes a narrowed section or turns a sharp angle.⁴

A rigid ventilating bronchoscope should be at hand to bypass distant tracheal and carinal obstructions.

Huge swelling with internal bleeding and distorted airway precluded the use of local infiltration for tracheostomy. Presence of goiter contraindicated the use of translaryngeal guided intubation, lighted stylets, TTJV. LMA is not indicated as it is a supraglottic device and pathology is

subglottic (extrinsic). Nasal intubation was not tried as bleeding would compromise airway. Moreover the neck could not be manipulated to align the glottic aperture and endotracheal tube.

Regional anaesthesia of airway like superior laryngeal nerve block, is not possible in this case. Awake fibreoptic endotracheal intubation would have been an excellent technique of choice for securing the airway, but unfortunately was not available. Finally, it was decided to use lidocaine in the nebulized form as it is simple, effective, anaesthetises entire respiratory tract and suppresses cough reflex. Halothane would have been a better choice for inducing the patient but unavailability of calibrated vaporizer at that time prevented its use. So, inspite of knowing the risk and an uncooperative patient, thiopentone was used so that patient can be put in recumbent position. Bleeding through trachea could be due to either pulmonary metastasis or malignant infiltration of aerodigestive tract. So, in situation where availability of equipments and facilities are limited, nebulized lidocaine is a valuable tool for anaesthetising airway to facilitating intubation.

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