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INCIDENTAL DIAGONOSIS OF A TRACHEO ESOPHAGEAL FISTULA IN A PATIENT POSTED FOR RIGHT PYELOPLASTY UNDER GENERAL ANAESTHESIA DURING POSITIVE PRESSURE VENTILATION : A RARE EXPERIENCE AND A CHALLENGE IN ANAESTHETIC MANAGEMENT

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INTRODUCTION

Tracheoesophageal fistula (TEF) is an abnormal connection between esophagus and distal trachea (at posterior wall of trachea, 2 – 3 tracheal ring above carina). Usually TEF presents at neonatal period. Tracheoesophageal fistula in adults is a rare entity. In adults TEF is mainly a sequelae of tuberculosis, malignancy, foreign body, radiation or pressure necrosis from long standing endotracheal cuff. Here we are describing a case of 53 year old male patient with undiagnosed TEF which was suspected at the time of positive pressure ventilation during Pyeloplasty and confirmed by contrast enhanced CT scan (CECT) thorax later.

THE CASE

A 53 year old male patient, farmer by profession, was admitted to the urology department with right sided hydronephorosis due to right pelviureteric junction obstruction. He was posted for right pyeloplasty.

In the preanaesthetic check up clinic he complained of recurrent attack of cough and cold and nocturnal mild respiratory distress since childhood. But he did not undergo any treatment for that reason. In systemic examination nothing significant was found. Airway examination revealed mallampati class 2 with normal mouth opening and neck movement. There were no

suggestive history of tuberculosis, malignancy etc. Complete hemogram, urea, creatinine, blood glucose, electrolytes were within normal limits. No abnormality were seen in ECG, chest X-ray PA view and pulmonary function test (PFT).

On the day of OT he was premedicated with 0.2 mg inj. glycopyrrolate and 100 mcg fentanyl. After 3 minutes of preoxygenation with 100% O_2 patient was induced with inj. propofol 120 mg. As we faced some difficulty in bag mask ventilation we did a check laryngoscopy and Cormack Lehane grading was 3. Anticipating difficulty, 100 mg succinylcholine was given in intravenous route. After ventilating for 60 seconds we intubated him with 8.00 mm I.D. cuffed endotracheal tube with the help of bougie. When we auscultated epigastrium and chest first to confirm the tube position, we heard sound of air in the epigastrium as well in the chest also. We checked the tube position by doing laryngoscopy again, but that was in correct position. Oxygen saturation in pulse oxymetry was 100% and $Etco_2$ curve was present. Suspecting that there might be a leak in cuff, we extubated over bougie and placed another new endotracheal tube via bougie after checking the cuff. But same incident happened. A ryle's tube was introduced into stomach and after deflating the stomach we heard sound over the chest only on auscultation. We removed the ryle's tube, put the patient on ventilator and handed over him to the surgeons for doing RGP. Maintenance of anaesthesia was done with N_2O:O_2 (5:3). All hemodynamic parameters were within normal limits. After 10 minutes when surgeons removed drapes for repositioning the patient in right kidney position, we found that the abdomen was distended, and on auscultation again we heard sound in epigastrium. We put a ryle's tube for evacuating the air and it was kept in situ throughout the operation. Maintenance of anaesthesia was achieved with 100% O_2 and isoflurane and atracurium was used for muscle relaxation. We were not facing any problem during the OT. At the end of surgery isoflurane was discontinued and muscle paralysis was reversed with inj neostigmine 2.5 mg and inj. glycopyrrotate 0.5 mg. We extubated the patient keeping the ryle's tube. After extubation the ryle's tube was removed. In the postoperative period the patient was doing well.

Suspecting an undiagnosed TEF, CECT thorax was done after consulting with a radiologist. In CECT a tiny interruption of wall was seen in the trachea in its posterior wall at the level of aortic arch and it was communicating with esophagus at the same level.

DISCUSSION

Trachea oesophageal fistula in adults is a very rare entity and mostly occurs as a sequel of malignancy. Other non malignant causes are as follows –

1. Delayed presentation of congenital tracheoesophageal fistula (H- type).
2. Post-traumatic due to foreign body aspiration or post intubation or tracheostomy.
3. Post-operative following vagotomy for hiatus hernia, aortic aneurysm or pulmonary resection.
4. Post inflammatory secondary to trauma or oesophagitis.
5. Infectious disease like tuberculosis or syphilis or histoplasmosis.
6. In AIDS patients esophagitis due to mycobacterium or candida.[1-3]

Patient not having and symptoms like hemoptysis or weight loss contributing malignancy as an etiology. We sent sputum for AFB (three consecutive days) samples for this patient and the result was negative. As Chest X-Ray was also not suggestive of Tuberculosis we performed Genexpert study of sputum(CBNAAT-Cartridge Based Nucleic Acid Amplification Test[4]) which also proved to be negative. Thus we ruled out Tubeculosis which is very prevalent in our country as an etiology of this disease. As preoperative all viral serology markers were negative we excluded AIDS in this patient. There was no history suggestive of any foreign body aspiration or long term endotracheal intubation or thoracic operative procedure as traumatic etiology.

Congenital H type tracheoesophageal fistula may persist beyond infancy and is compatible with prolonged life. Its incidence is 4.2% among all tracheoesophageal fistula. Patient may present with chronic cough mainly postprandial or nocturnal with wheezing and recurrent chest infection. The classical presentation is swallow-cough sequence (Ono's sign)[4], though not present in all cases, should arouse suspicion of the diagnosis. The frequency and symptoms vary with type of food taken and angle of the fistulous tract.

Solid foods are better tolerated in these patients. Due to difference in the growth of esophagus and trachea this angle increases with age and tends to be more like "N" than "H".

After 1 year of follow up he was not having any respiratory symptoms except occasional cough. After consultation with cardiothoracic surgeon he was managed conservatively with proton pump Inhibitor and antibiotics.

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