



CHALLENGES IN THE MANAGEMENT OF A DEAF AND MUTE WITH LARGE MULTINODULAR GOITRE - A CASE REPORT

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ABSTRACT

Management of a deaf and mute patient with large multinodular goiter posted for thyroidectomy can be a challenge for the operating team. Building a good rapport with the patient and ensuring closed-loop conversations with regards to operative steps and possible complications of surgery as well as anaesthesia aids in reducing patient's anxiety and insecurities. Co-ordinated team efforts of Otorhinolaryngologists and Anaesthesiologists can be help in smooth conduct of surgery and faster recovery.

KEYWORDS

Deaf And Mute, Thyroidectomy, Peri Operative Challenges

INTRODUCTION

Real communication happens when one can understand the message and they can respond in same manner¹. Loss of hearing is a substantial cause of disability, and most surgeons will come across such patients at one time or another.² We are presenting a case report of a deaf and mute patient with large multinodular goiter who required special attention and care in peri-operative period. Pictorial illustrations and video – counseling sessions were of great help in making the patient understand the nature and course of surgery before the surgery, and to establish an effective communication during the recovery period.

CASE REPORT

A 36 years old congenitally deaf and mute female presented to our ENT outpatient department with swelling neck since one and half years (Fig 1). She was housewife and practiced tailoring as a hobby. The parents of the patient were healthy with no hearing or speech defect and had 4 children- 1 son and 3 daughters. Among them first daughter ie. the patient, 2nd son and 4th daughter were deaf and mute congenitally while the 3rd daughter had normal hearing and speech functions. Patient's husband and 2 children had normal hearing and speech functions.

USG showed Multinodular Goitre and FNAC confirmed Colloid goiter with cystic degeneration. Patient was well counselled and posted for Near Total Thyroidectomy. Though the patient was uneducated, she was very intelligent and co-operative enough to understand the need for surgery and its preparations. Pre-operatively we focused on interacting with the patient and her mother. We trained the patient to express presenting complaints with the help of pictorial illustrations (Fig 2) and thereby differentiated the hypothyroidism and hyperthyroidism symptoms while history taking. Tracheal and esophageal compressions were ruled out as she did not have any complaints of difficulty in swallowing and difficulty in breathing. She was counseled about the incision on the neck, duration of the surgery, probable scar on the neck. Surgical procedure was explained in detail to the patient by means of a video. Contrary to admission one day prior to surgery, we admitted the patient 2 days prior to surgery to build the good rapport with the patient and to re-assure the arrangements with mock trial.



Figure : 1 Congenitally deaf and mute patient with Thyroid swelling, a Pre-operative picture.

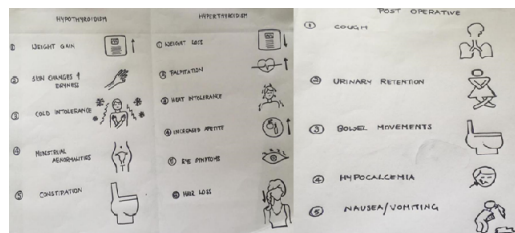


Figure : 2 Pictorial illustration while history taking and post-operative management

Her visual and tactile sensations were used as a means to depict different symptoms or to evoke a particular reaction. Patient was taught to respond by opening eyes on gentle tap on forehead, to lift head when we tap on chin, to lift legs on tapping on sole, to grasp tight when we hold the hand, to express the severity of pain/ discomfort by showing the Visual Analogue pain scale. She was given a bell and instructed to ring the bell if she experienced any breathing difficulty due to hematoma, to produce sound or cough when we tap on the right palm to check Recurrent Laryngeal Nerve and Superior Laryngeal nerve function, to tap on the lips if she has perioral twitching or numbness in the hands to check for hypocalcaemia.

Pre- anaesthetic checkup and all the required pre-operative investigations were carried out by the anaesthesia team and clearance for surgery given as the patient was euthyroid. The thyroid mass did not cause any tracheal deviation, compressive symptoms or retrosternal extension, so airway difficulty was not anticipated. Utmost effort was made during the pre- anaesthetic sessions to explain all the drugs available for allaying pre-operative anxiety and ensuring reduced post-operative pain. The nature of drugs used for administering general anaesthesia, possible complications associated with it, post-operative pain quantification by VAS as well as pain management strategies were familiarized to her by means of placards. Adequate time was spent to know about her concerns and insecurities and reassure her by means of gestures.

On the day of surgery, patient was premedicated with alprazolam 0.25mg 6 am in the morning with sip of water and shifted in pre-operative area where IV cannula was secured after explaining the pinch like sharp sensation associated with the cannulation, by showing a picture. IV Midazolam 0.04mg/kg was given to reduce anxiety and patient was shifted to OT in calm state. Monitors were attached including ECG, NIBP, SpO₂, ETCO₂ and nasopharyngeal temperature probe. After intravenous induction, ETT was secured and anaesthesia was maintained with inhalational agents. BIS monitoring was used to titrate the depth of anaesthesia between 40-60. Peri-

operative analgesia was conducted with multiple modalities including 1. Local Infiltration before incision 2. Opioids –Fentanyl 1mcg/kg 1 hour post induction and further top- ups 3. NSAIDS – Diclofenac 1mg/kg IV infusion after checking for hypersensitivity reaction. 4. PCM Suppository 40mg/kg was inserted for post-operative phase before extubation. OT ambient temperature and fluids were warmed to prevent hypothermia.

Before the end of the surgery IV 0.1mg/kg ondasterone, IV Dexona 0.15mg/kg was given to prevent post-operative nausea and vomiting. We used Lignocord 1.5mg/kg to prevent extubation stress response. Patient was extubated with adequate swallow and cough reflex post reversal seeing the movement of vocal cords by direct laryngoscopy to rule out RLN injury.

Post extubation patient was asked to quantify her pain by VAS and other complications such as sore throat, nausea, and vomiting, urinary retention by pointing out at the respective picture. (Fig 3). Fortunately patient was completely comfortable, pain free and shifted to post-operative recovery with allowance of her mother to be with her.

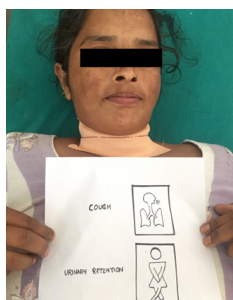


Figure : 5 Post operative period

DISCUSSION

According to WHO, around 466 million people worldwide have disabling hearing loss.³ It has been noticed that the deaf and mute are at risk of not getting adequate healthcare information or proper care at hospitals due to lack of communication between the staff and patient. Counselling and the assessment of patient pre-operatively are the corner stones to build the trust on the healthcare workers. Emphasis should be laid on curbing the pre, intra operative and post-operative neuroendocrine stress response which elevates heart rate and BP, impairs glucose control to affect wound healing, delays gastric emptying, increases risk of nausea and vomiting, pain, anxiety, sleep disturbances post operatively to delay mobilization and prolong the stay in hospital.⁴ Postoperatively, the patient must be kept wakeful, adequate to appreciate the internal need of the body and to make an expressive reaction to external stimuli.⁵ As Herr K et al concludes, the healthcare staff ought to be morally, ethically, and professionally involved in the care of patients, mainly those who are vulnerable and unable to speak for themselves. These special patients require constant assessment and suitable treatment to ensure the greatest possible care and pain relief.⁶ Also patients should be explained about the long follow up for hypothyroidism symptoms after thyroidectomy. Kiran N et al suggests that patient safety, effectiveness and efficiency of treating specialists, risks of misdiagnosis, problems during surgery and anaesthesia, should be taken care in patients with special needs.⁷ Margellos et al emphasizes on the necessity to advance health education materials and platforms for Deaf individuals. Education on Deaf culture and barriers in communication should be encouraged in Hospitals.⁸

CONCLUSION

The success of any operative procedure demands complete patient satisfaction and a stress free, pain free environment. In a major surgery like thyroidectomy, a deaf and mute patient can pose a lot of difficulties in establishing an effective means of communication, thereby challenging the peri operative outcome. It is only by the team efforts of Otorhinolaryngologists, Anaesthesiologists and trained staff that patient cooperation is ensured and smooth recovery is possible.

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