

Use of Sign Language For Awake Fiberoptic Intubation

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Abstract

Anaesthesia for the deaf-mute could be a taxing experience for the anaesthetist due to ineffective communication. We describe a case where sign language was successfully used for Awake Fiberoptic Intubation in difficult airway in a case of polytrauma. The patient was deaf and dumb since birth with Mallampatti classification IV on preoperative examination.

INTRODUCTION

SIGN LANGUAGE is a language which uses manual communication, body language and lips pattern and is commonly developed in deaf and dumb communities. Deaf and dumb people are by no means silent at all. They use sign language, lip reading, vocalizations, and so on to communicate. Communication is not reserved for hearing people alone, and using one's voice is not the only way to communicate. In Sign Language, facial expression including the raising or lowering of the eyebrows while signing and body language are integral parts of communicating. These actions help give meaning to what is being signed, much like vocal tones and inflections give meaning to spoken words.

We encountered such a case where awake fiberoptic intubation was planned in view of difficult airway. Since we know that patient cooperation is a must for the success of any awake fiberoptic intubation procedure, we decided to make the effort of communication by sign language to avoid a fresh tracheostomy.

CASE REPORT

A 25 year old, male, weighing 50 kg patient scheduled for external fixator placement in lower limb following a polytrauma 25 days back. The patient was deaf and dumb since birth. This patient had road traffic accident resulting in fracture mandible and fracture femur. There was no history of loss of consciousness, seizures or head trauma. Emergency tracheostomy was done at the time of accident for wiring and plating of fracture mandible. The tracheostomy was decannulated after 6 days. Routine laboratory investigations were normal and patient was vitally stable. There was no other co-morbid condition. His airway examination revealed reduced mouth opening (1.5 cm),

Mallampatti classification IV and reduced TMJ movement. Anticipating a difficult airway an awake fiberoptic intubation was planned. Since the patient was illiterate, his younger deaf and dumb but literate brother was explained the procedure in details in written and was persuaded to reciprocate the same to his brother by sign language. Patient's brother explained the whole procedure in detail by hand-signs to his brother.

Airway was prepared with lignocaine viscous gargles, lignocaine 4% nebulization and xylometazoline nasal drops. After giving oral premedication with alprazolam 0.25mg and aspiration prophylaxis patient was shifted to operation theatre. After preoxygenation with 100% oxygen, the fiberoptic scope was introduced through one of the nostrils. Once the larynx was visualized, the scope was advanced till the carina and tracheal rings identified. The endotracheal tube was then railroaded over the scope, passed through the vocal cords and placed in the trachea. Bilateral air entry was confirmed and tube secured. The scope was withdrawn and anaesthesia was induced. Surgery lasted for 2 hours with uneventful intraoperative period. Neuromuscular blockade was reversed at the end of surgery and trachea was extubated. The postoperative period was uneventful.

DISCUSSION

Airway problems are a major concern to Anaesthesiologist; however the introduction of Fibre-optic intubation has revolutionized the anaesthetic management of difficult airway. Awake fiberoptic intubation is the gold standard for difficult airway management but failures are reported in the literature in up to 13% of cases¹. However, there is scanty of such data suggesting awake fiberoptic intubation in deaf and dumb patient using sign language in difficult airway.

Anaesthesia for the deaf mute could be a challenging experience because of the potential for ineffective pre and postoperative communication. Physicians including anaesthetists have little training in communication skills for such situations ².

A sign language is a language which uses manual communication, body language and lip patterns to convey meaning – simultaneously combining hand shapes, orientation and movement of the hands, arms or body, and facial expressions to express fluidly a speaker's thoughts. The written history of sign language began in the 17th century in Spain. As the case in spoken language, sign language differs from one region to another. The elements of a sign are hand-shape (or hand-form), orientation (or palm orientation), location (or place of articulation), movement, and non manual markers (or facial expression), summarized in the acronym HOLME ³.

While the sign language in Indian Sign Language (ISL) appears to be largely indigenous, elements in ISL are derived from British and American Sign Language ⁴. There is no

official recognition of Indian Sign Language. In the Indian deaf population of 3.1 million, 98% are illiterate ⁵. Thus, sign language can be used effectively in deaf and dumb patients for a complex procedure such as awake fiberoptic intubation which needs full patient cooperation and support thus facilitating successful outcome.

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