International Journal of Medical and Pharmaceutical Research

Online ISSN-2958-3683 | Print ISSN-2958-3675
Frequency: Bi-Monthly
Available online on: https://ijmpr.in/

Case Report

Challenges Faced in Management of Deaf and Mute Patient for L.S.C.S Under Subarachnoid Block

Dr Abhinav Gupta[1], Dr Shikha Agarwal[2], Dr Sonam[3], Dr Mahendra Kumar[4], Dr Harsh Vardhan[5]

[1]Senior Resident, Department of Anaesthesiology, Intensive care & Pain medicine, School of Medical Science & Research, Sharda University, Greater Noida
[2]Associate Professor, Department of Anaesthesiology, Intensive care & Pain medicine, School of Medical Science & Research, Sharda University, Greater Noida
[3]Postgraduate Resident, Department of Anaesthesiology, Intensive care & Pain medicine, School of Medical Science & Research, Sharda University, Greater Noida
[4,5]Professor, Department of Anaesthesiology, Intensive care & Pain medicine, School of Medical Science & Research, Sharda University, Greater Noida

OPEN ACCESS

Corresponding Author:

Dr. Abhinav Gupta
Senior Resident, Department of Anaesthesiology, Intensive care & Pain medicine, School of Medical Science & Research, Sharda University, Greater Noida

Received: 26-05-2026
Accepted: 07-06-2026
Available online: 21-06-2026

ABSTRACT

Patients who are deaf and mute since birth face challenges with speech and language. Effective communication in hospital settings, especially during anaesthesia, is difficult. To improve interaction, healthcare providers should be trained in communication techniques. A comprehensive preoperative assessment and tailored perioperative management that meet the patients' needs are essential for successful outcomes. Additionally, implementing pain protocols and using tools like the Visual Analogue Scale (VAS) and others communication aids can be effective and can help reduce stress and complications related to anaesthesia and surgery.

Keywords*: anaesthesia, visual analogue scale, perioperative management.*

INTRODUCTION

Patients who are both deaf and mute require proper preoperative preparation for a smooth peri-operative course and post-operative recovery are an anaesthetic challenge.[1,2] In the present day scenario patient centered anaesthesia is practise where preferences, needs and safety are customized to satisfy the patient. Assessing patients' communication skills, educational background and level of co-operation can help in planning the required preoperative preparation. Methods adopted to reduce stress in such patients and providing adequate postoperative analgesia will enable the patient to respond to postoperative care and be discharged early.[3]When these patients come for any surgical procedure, they are at risk of receiving limited information due to there inability to understand thereby hampering their right to choose the anaesthetic techniques and understanding the details of the surgical procedures they are about to undergo and the inherent risks associated with both the surgery and anaesthesia. Therefore, establishing an effective communication is the most crucial and challenging part of providing healthcare, particularly when anaesthetic care is to be provided.[4]

Hearing loss may be present at or acquired soon after birth. It may be due to hereditary or non-hereditary factors, or complications of pregnancy and childbirth. More than 50% of cases of congenital hearing loss are due to genetic factors. Among patients with congenital deafness, about 20% are associated with syndromes such as Alport, Crouzon, Usher, Down, Treacher Collins, Jervell and Lange-Nielsen, Pendred, and Stickler syndromes, while about 80% are non-syndromic. Acquired causes can lead to hearing loss at any age and include infections, drugs, injury, noise, and ageing.[5]

This case report highlights the Challenges faced by anaesthetist in the management of patient who was deaf and mute since birth undergoing L.S.C.S under subarachnoid block.

CASE REPORT

A 28year old deaf and mute Primigravida with 37week of gestation, presented with a history of pain abdomen on 3/1/2024. She was accompanied by her husband, sister in law and father in law. History was given by the sister in law as her husband was also deaf and mute.

On examination, patient was lying on bed. Vitals were within normal limits. On systemic examination she was conscious, oriented, following commands, B/L crepts were present, per abdomen with gravid uterus upto 37 weeks and rest other system were within normal limit. Patient was nebulised with Duolin and Budecort and was shifted to O.T complex.

Patient was shifted to pre operative room with sister in law for communication assistance. With the help of the patient's sister in law, the procedure of subarachnoid block and general anaesthesia was explained to her using sign language, video and Picture (Fig:1) and consent for the procedure was taken. To assess the level of sensory blockade, patient was made to experience the temperature of ice pack and her response was noted, pin pricks, fine touch for pain response and motor blockade with the help of modified Bromage scale was explained pre operatively and during pre-anaesthetic checkup .To reduce anxiety and for better communication, some sign languages indicating pain, anxiety, numbness, heaviness in the legs were learnt from the patient's attendant and for side effects, their pictorial presentations were kept for better assessment.

Figure 1A

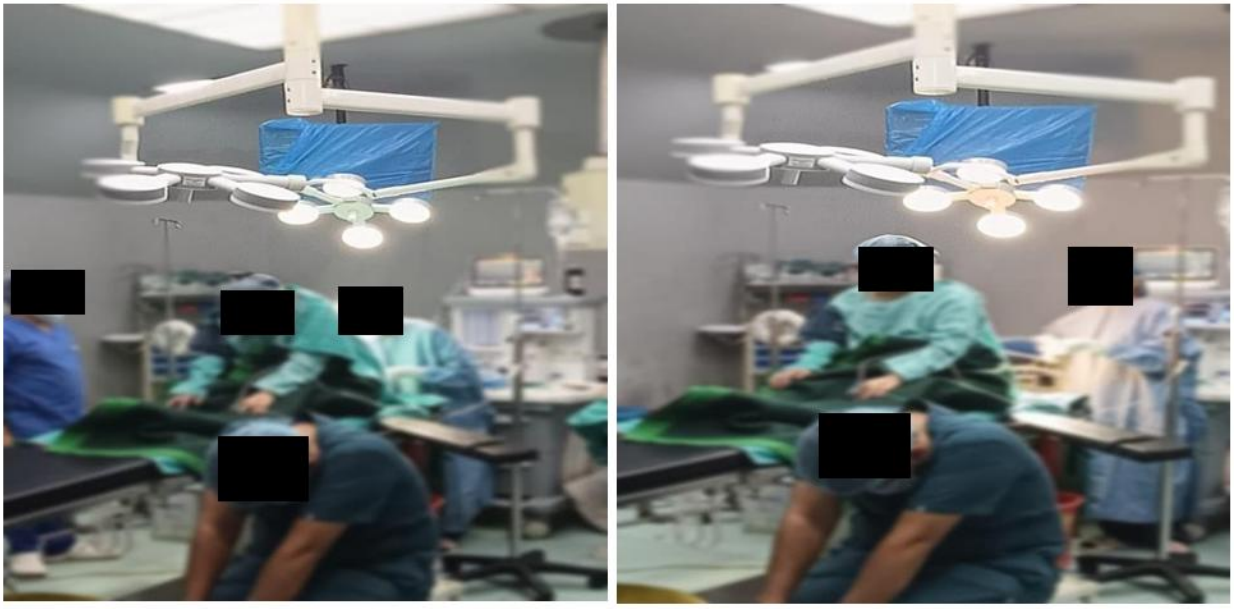
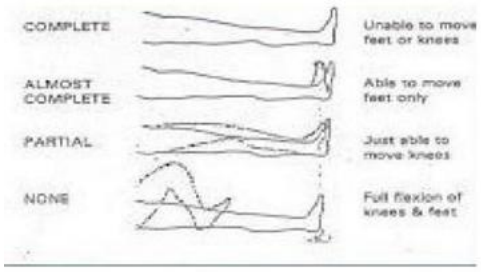


Figure 1B

Figure1C

FIGURE 1:(A) EMERGENCY SIGN LANGUAGE (B) SITTING POSITION DEMONSTRATED DURING SUBARACHNOID BLOCK PROCEDURE(C) OPERATION THEATRE

PIN PRICK , FINE TOUCH AND TEMPERATURE (TO ASSESS SENSORY RESPONSE)



Grade 0 No motor block

Grade 1 Inability to raise extended leg, able to move knees and feet

Grade 2 Inability to raise extended leg and move knee, able to move feet

Grade 3 Complete motor block of the lower limbs

MODIFIED BROMAGE SCALE(TO ASSESS MOTOR RESPONSE)

FIGURE :2 TO ASSESS SENSORY AND MOTOR RESPONSE

Patient was shifted operation theatre, ASA standard monitors attached, which included electrocardiography, pulse oximetry, non invasive blood pressure and baseline reading was taken. The entire procedure was demonstrated in front of the patient by a junior resident.

Patient was positioned(sitting), cleaned, draped and under sterile aseptic precautions 2.2ml bupivacaine Heavy was given through 26G Quincke needle in L3-L4 space following which patient was made to lie supine immediately. The sign languages learnt preoperatively helped us to assess the level of sensory blockade for which a similar ice pack as used preoperatively was touched to different levels, pin pricks and fine touch for pain response was done using VAS scale and motor blockade with the help of modified Bromage scale was done. Intraoperative period was uneventful baby was delivered within 5 min after subarachnoid block and cried immediately after birth. During the intraoperative phase, visual analogue scale was used to assess pain and flash cards were shown to the patient to identify any side effects of the anaesthetic procedure. After surgery the patient was shifted to post anaesthetic care unit for observation.

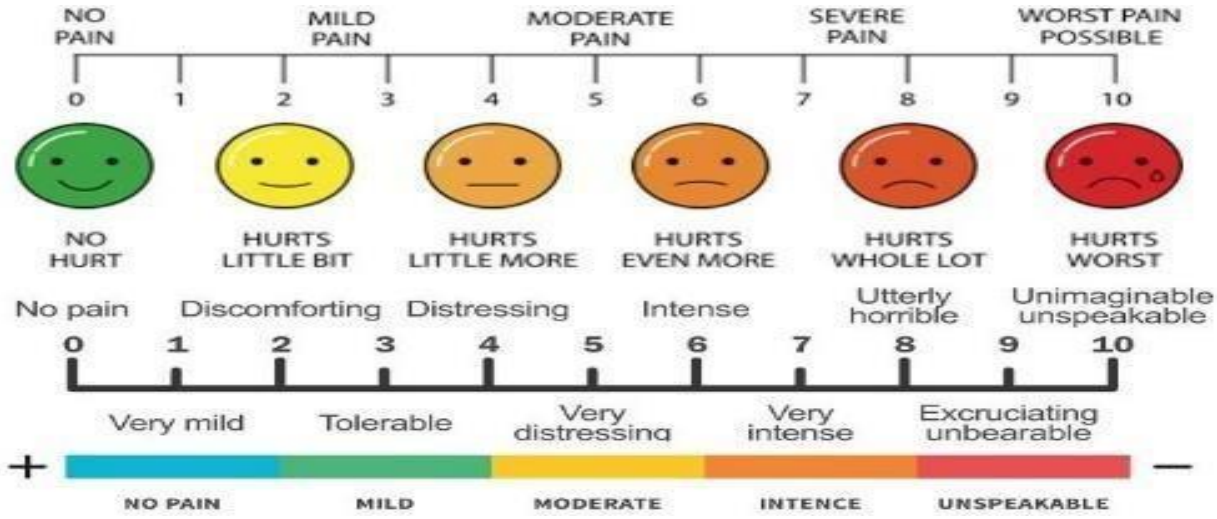


FIGURE 3: VISUAL ANALOGUE SCALE

FIGURE 4: SIDE EFFECTS (A) NAUSEA & VOMITING (B) GHABRAHAT (C) HEADACHE (D) PAIN

DISCUSSION

As per 2018 World Health Organization estimates, 466 million people suffer from disabling hearing loss worldwide, which forms 6.1% of the population, and the number could rise to 900 million by 2050. The prevalence in South Asia is 7.37%, affecting 131 million people.[6] The incidence and prevalence in India are also very high.[7]

Establishing effective communication is one of the biggest challenges in providing healthcare to these patients. Evaluating the patient's communication skills, educational background, and willingness to cooperate can aid in planning the necessary preoperative preparation.[3]

Syndromic patients should be thoroughly evaluated to identify any associated conditions that could impact the anaesthesia plan, such as long QT syndrome or a difficult airway. When planning general anaesthesia, it is crucial to prioritize postoperative analgesia. If a neuraxial block is intended, the procedure should be clearly explained to the patient, using an interpreter or instructional videos or visual diagram. In our situation, we demonstrated the entire procedure to the patient upon their transfer, which significantly helped to reduce anxiety.[8]

Preoperative awareness of how events will unfold can help reduce anxiety, sleep disturbances and irritability while promoting cooperation. Allowing relatives to enter the operating area during the procedure can also reduce stress and anxiety. Using sign language to communicate pain, numbness, and heaviness in the legs, which was learned preoperatively, was helpful in assessing the level of blockade. Formulating a definitive postoperative analgesic plan, such as utilizing the VAS, can reduce stress and its related complications including delayed gastric emptying, nausea, vomiting and paralytic ileus, ultimately facilitating quicker mobilization and discharge from the hospital.

A smaller dose of spinal drug is preferred to avoid high spinal with extensive sympathetic block and deafferentation of chest wall, as signs such as discomfort, breathing difficulty, lightheadedness, nausea,etc are difficult to communicate and can be missed in the early phase.[8]

CONCLUSION

The management of deaf and mute patients presents challenges that can lead to adverse outcomes so, necessitates proper planning, management and communication skills for a smooth perioperative period. Optimizing care through comprehensive preoperative assessments, establishing effective communication, implementing objective pain assessments and protocols and various communication tools, and training support staff will contribute to achieve successful outcomes.

REFERENCES

1. Kiran N., Madhusudhana R., Somasekharan P., Dinesh K., Manjunath T. Anaesthesia for deaf and dumb – challenge for anaesthesiologist. *World J Pharm Pharm Sci.* 2014;3:506–509.
2. Chowdhry V., Padhi M., Mohanty B.B., Biswal S. Perioperative challenges in management of a deaf and dumb patient posted for high-risk cardiac surgery. *Ann Card Anaesth.* 2016;19:564–567.
3. Singh V, Nasser A. Challenges during anaesthetic management of a 38-year-old deaf and mute patient under general anaesthesia. Med J Armed Forces India. 2021 Jan;77(1):105-107. doi: 10.1016/j.mjafi.2019.08.002. E pub 2019 Dec 2. PMID: 33487876; PMCID: PMC7809501.
4. Shrestha, Kajal & Anil, Arsha & Gowda, Abhisek. (2024). Subarachnoid Block In Verbally and Hearing-Impaired Patient; A Wonted Consideration REG. NO: D7635654-AFINJ. JOHP-ISSN:2348-7704J. Hosp. Pharmacy 18(2) April to June, 2023.
5. Nance WE. The genetics of deafness. *Ment Retard Dev Disabil Res Rev.* 2003;9:109– 119.
6. World Health Organization. Deafness and hearing loss – fact sheet.
7. Varshney S. Deafness in India. *Indian J Otol.* 2016;22:73–76.
8. Steveti M. Shulman, Sunitha Polepalle; Spinal Anesthesia for a Deaf-Mute Patient Undergoing Prostatic Surgery. Anesthesiology 1993; 78:590–591.