DOI: 10.21088/ijaa.2349.8471.13426.10

Indian Journal of Anesthesia and Analgesia
Volume 13 Number 4 October-December 2026

CASE REPORT

Emergency Lower Segment Caesarean Section in a Patient with Neurofibromatosis: Anaesthetic Challenges and Management

Panguluri Bala Venkat[1], Ravi Madhusudhana[2], Mudigonda Sai Sharath Meghana[3]
Devini Sneha Vijayalakshmi[4], Nataraja Jayakumar Siva Shankar[5]

HOW TO CITE THIS ARTICLE:

Panguluri Bala Venkat, Ravi Madhusudhana, Mudigonda Sai Sharath Meghana et. al, Emergency Lower Segment Caesarean Section in a Patient with Neurofibromatosis: Anaesthetic Challenges and Management. Ind J Anesth Analg. 2026; 13(4): 217-219.

ABSTRACT

Neurofibromatosis (NF) especially Type 1, is a autosomal dominant disorder characterized by multiple neurofibromas, café-au-lait spots, and possible airway, spinal, and systemic involvement. These features pose significant anaesthetic challenges, particularly in emergency obstetric situations like LSCS.

A 33 year old G2P1L1 with 37 weeks 2 days gestation with cephalic presentation with previous LSCS in active labour with known neurofibromatosis who underwent emergency lower segment caesarean section for foetal distress. The patient presented with multiple cutaneous neurofibromas and possible airway involvement, raising concerns regarding difficult airway and neuraxial anaesthesia safety. Preoperative evaluation was limited due to the emergency nature of the procedure. Airway assessment suggested potential difficulty, and spinal abnormalities could not be ruled out. Considering these factors, a carefully planned anaesthetic approach was undertaken.

Regional anaesthesia was administered with caution after assessing the absence of obvious spinal deformities, and the procedure was successfully completed under subarachnoid block. Intraoperative and postoperative periods were uneventful, with stable maternal and fetal outcomes.

Emergency LSCS in NF patients requires: Rapid assessment, Airway preparedness, Careful selection of anaesthetic technique. Spinal anaesthesia can be safely given in selected cases.

AUTHOR'S AFFILIATION:

[1] Junior Resident, Department of Anesthesiology, SDUMC, Sduaher, Kolar, Karnataka, India.
[2] Professor, Department of Anesthesiology, SDUMC, Sduaher, Kolar, Karnataka, India.
[3] Senior Resident, Department of Anesthesiology, SDUMC, Sduaher, Kolar, Karnataka, India.
[4] Junior Resident, Department of Anesthesiology, SDUMC, Sduaher, Kolar, Karnataka, India.
[5] Junior Resident, Department of Anesthesiology, SDUMC, Sduaher, Kolar, Karnataka, India.

CORRESPONDING AUTHOR:

Ravi Madhusudhana, Professor, Department of Anesthesiology, SDUMC, Sduaher, Kolar, Karnataka, India.

E-mail: ravijaggu@gmail.com

➢ **Received:** 31-08-2026 ➢ **Accepted:** 05-10-2026

Creative commons non-commercial CC BY-NC: This article is distributed under the terms of the creative commons attribution non-commercial 4.0 License (http://www.creativecommons.org/licenses/by-nc/4.0/) which permits non-commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the Red Flower Publication and Open Access pages (https://rfppl.co.in)

KEYWORDS:

•Neurofibromatosis • Emergency LSCS • Difficult Airway • Regional Anaesthesia • Obstetric Anaesthesia

Key Messages: Neurofibramatosis, Subarachnoid block

INTRODUCTION

Neurofibromatosis (NF) particularly Type 1, is a autosomal dominant disorder characterized by café-au-lait spots, multiple neurofibromas and possible involvement of the central and peripheral nervous systems.[1,2] Anaesthetic concerns include Difficult airway due to oropharyngeal or laryngeal neurofibromas, Spinal deformities or neurofibromas affecting neuraxial techniques, Associated hypertension or pheochromocytoma.[3,4,5] Increased risk during pregnancy due to hormonal influences on tumour growth. Emergency obstetric situations further complicate management due to limited time for evaluation.

CASE REPORT

A 33 year old female with G2P1L1 with 37 weeks 2 days gestation with cephalic presentation with previous LSCS in active labour presented with labour pains and fetal distress, requiring emergency LSCS. She was a known case of neurofibromatosis Type 1, diagnosed clinically based on Multiple cutaneous neurofibromas, Café-au-lait spots (Figure 1), No prior neurological deficits. Preoperative Assessment includes General condition that is Stable, Airway with Mallampati Grade II, multiple neurofibromas on face and body, no obvious intraoral lesions. Spine has No visible deformity but imaging is not available. Systemic examination is within normal limits. Investigations includes Haemoglobin and routine laboratory investigations which are normal. Given the emergency, advanced imaging (MRI spine/ airway) could not be performed. Anaesthetic Management like Standard monitors were applied (ECG, NIBP, SpO2). Difficult airway cart kept ready. Patient preloaded with IV fluids. Under strict aseptic precautions, Anaesthetic technique subarachnoid block was performed at L3–L4 using 0.5% hyperbaric bupivacaine. Adequate sensory block was achieved up to T4 level. Intraoperative Course is that Surgery proceeded uneventfully. Hemodynamics remained stable. A healthy baby was delivered. No complications noted. Postoperative Course is that Patient is monitored in recovery. Analgesia provided. No neurological deficits or complications observed.

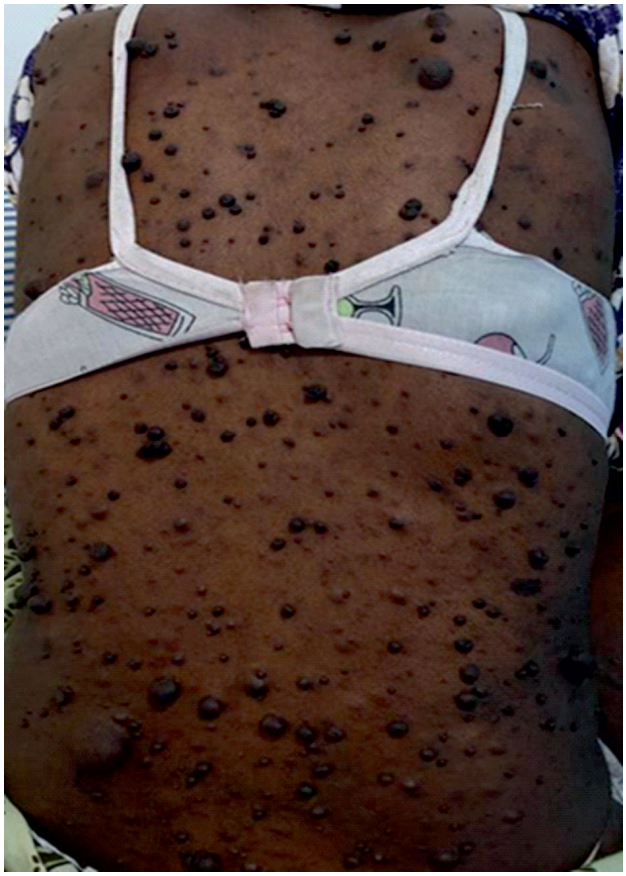


Figure 1: Café-au-lait spots

DISCUSSION

Neurofibromatosis presents several anaesthetic challenges like Airway Management like Neurofibromas involving the tongue, pharynx or larynx can lead to difficult intubation.[1]

Even when external airway appears normal, hidden lesions may exist.[2,6] Hence Difficult airway equipment must be available and Backup plans (video laryngoscopy, fibreoptic intubation) should be prepared. Neuraxial

Anaesthesia Concerns includes Spinal neurofibromas or scoliosis may complicate regional techniques , Risk of neurological injury exists if tumours are present in spinal canal.[3] Ideally, MRI is recommended before neuraxial block but often not feasible in emergencies.

In this case, absence of neurological symptoms and visible deformity supported safe spinal anaesthesia. Cardiovascular Considerations includes NF patients that may have hypertension and Rare association with pheochromocytoma associated with risk of intraoperative hypertensive crisis.[4] Obstetric Considerations like Pregnancy may increase size and number of neurofibromas and Emergency LSCS limits time for detailed evaluation. Choice of Anaesthesia will be Regional anaesthesia, preferred if no contraindications and General anaesthesia may be risky due to difficult airway.[5] In this case, spinal anaesthesia avoided airway manipulation and was safely performed.

CONCLUSION

Anaesthetic management of patients with neurofibromatosis undergoing emergency LSCS requires Rapid but focused assessment. Preparedness for difficult airway, Careful selection of anaesthetic technique, Vigilant intraoperative monitoring. Regional anaesthesia can be safely administered in selected patients when no neurological deficits or spinal abnormalities are evident.

Conflict of Interest: Nil

REFERENCES

1. Kour G, Sharma S, Sharma D, Singh G. Spinal anaesthesia for emergency cesarean section in neurofibromatosis for an antepartum haemorrhage: a case report. Int J Res Med Sci.2024;12(3), 990–992.
2. Maharjan M, Tiwari I, Shrestha S. Is spinal anesthesia safe for a parturient with neurofibromatosis undergoing cesarean section? A Case Report. J Soc Anesth Nep.2024;11(2), 40-42.
3. Taka H, Kusama N, Sakamoto M, Sasano N, Tanaka M. A successful combined spinal-epidural anesthesia for cesarean section in a patient with neurofibromatosis type 1-associated dural ectasia. JA Clin Rep. 2024;10:61.
4. Wang J, Wei G, Wang Z, Huang H. Detection of severe hypertension in a patient with neurofibromatosis type 1 during anesthesia induction: a case report. J Med Case Rep. 2019;13:349.
5. Theodosopoulou P, Nastos C, Paraskeva A. Anesthetic management of a patient with type 1 neurofibromatosis and an occult pheochromocytoma: a case report. Braz J Anesthesiol. 2023;73(5):695–698.
6. Nara J, Yalla N. Anesthetic management of difficult paediatric airway in a case of large facial neurofibromatosis: a case report. Indian J Clin Anaesth. 2023;10(4):379–381.