VOLUME - 10, ISSUE - 06, JUNE- 2021 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Anaesthesiology

USG SAVED THE DAY: PRE-PROCEDURAL USG SPINE FOR SPINAL ANAESTHESIA IN A PARTURIENT WITH THORACO-LUMBAR SCOLIOSIS WITH POST BURN CONTRACTURE NECK

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ABSTRACT **Introduction:** Incidence of Scoliosis is approximately 2% and higher in females. Therefore, anaesthesiologist should be familiar with its implications for safe anaesthetic management1. Such parturients present unique challenges for administration of regional anaesthesia. Reporting one such case with a successful outcome using pre procedural Ultrasound spine for spinal anaesthesia. **Case Report:** A 27 years, 39 weeks primigravida of height 132 cm, with cephalo pelvic disproportion in labour with grade III scoliosis and post burn contractures involving neck, was posted for emergency cesarean section. Patient underwent surgery successfully under SAB after accessing spine by ultrasonography for identifying point of insertion, depth of intrathecal space & needle trajectory.2 **Conclusion:** Ultrasound is boon for accessing spine in patient with difficult spinal anatomy and pregnancy for deciding correct spinal interspace and successful outcome with fewer attempts.

KEYWORDS : Ultrasound, Cesarean section, spinal anaesthesia, scoliosis with pregnancy.,

INTRODUCTION

- Scoliosis- It is defined as a 'lateral curvature of the spine'(Fig. 1)
- Incidence – It is around 2% and is higher in females.
- Etiology: Idiopathic, Paralytic (Neuro or Myopathic), Congenital, Neurofibromatosis (Marfan Syndrome), Ehlar-Danlos Syndrome, Post Traumatic..
- Associated with restrictive lung disease and hypoxemia leading to cardiovascular compromise & if left untreated → pulmonary hypertension and respiratory failure.[1]
- Pregnancy exacerbates severity of spinal curvature with uncorrected scoliosis.
- It is important for an Anesthesiologist to be familiar with the implications of scoliosis and thus to formulate safe anesthetic plan

CASE REPORT

- **Diagnosis:** 27 yrs old, PGR, Ht-132 cm & weight 50 kg with CPD in labour with grade III scoliosis and post burn contractures of face and neck, was posted for elective cesarean section.
- **Past History:** Scoliosis was observed at the age of 8 yrs and burn 7 yrs back.
- **Airway Assessment:** Mallampatti score - III, with intact dentition, Mouth Opening > 2FB, and restricted neck movements (post burn contracture of face and neck). (Fig.2 D)
- **Examination of the spine:-** Lateral curvature from T4–L5 with Cobb Angle > 50 degree. (Fig.2 A)
- **Vitals:** PR-88/min, BP -110/80 mmHg, SpO2 -99 % on room air.
- **Systemic Examination:** CVS/Chest- NAD.
- Blood investigations- WNL.
- **ECG:** Normal sinus Rhythm.
- **Anaesthesia Plan:** CNB in form of Spinal Anaesthesia.
- **Preprocedural USG:** Decision for pre procedural USG guided spinal anesthesia made due to anticipated difficult spinal needle placement. Preprocedural USG in PSO view done, starting from sacrum and then moving in cephalad direction.
- At L3-L4 where both posterior & anterior complex was visible the probe was oriented in the transverse plane and centred in the midline to get the clear view of the structures, (USG visibility score – 3) (Fig 2B).
- depth of AC, PC and intrathecal space was measured in the midline. (Fig 2b)
- 26G quincke needle inserted at point of intersection of vertical and horizontal lines drawn from the centre of the probe in the longitudinal and transverse axis.
- Clear CSF obtained in single attempt. Spinal anesthesia administered by injecting 1.8 ml of .5 % heavy bupivacaine.
- **Block Characteristic:** Sensory blockade was observed by loss of sensation to pinprick below T6 dermatome..
- **Actual needle length:** 3.10 cm
- **Time taken to give spinal block:** 92 seconds
- **Back up plan:**
- Procedure – Surgery went uneventful.

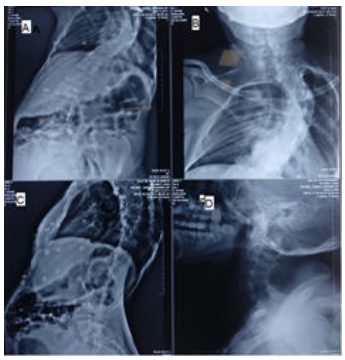

Fig. 1

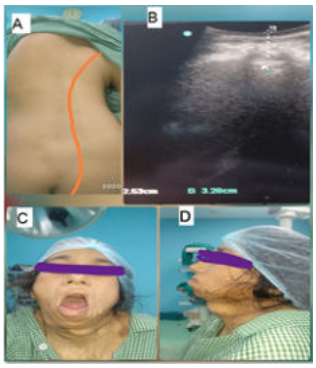

Fig. 2

DISCUSSION

- Operative delivery is increased in such patients due to skeletal deformities and CPD as in our case.
- Focus in obstetric surgery is the safe and skilled anesthetic management to minimize risk to the mother and the fetus. In our case, the feasibility and choice of anesthesia was a challenge.
- **Advantage of Preprocedural USG before CNB:-** In avoidance of airway manipulation in a setting of the difficult airway. Availability of USG for accessing spine, identifying point of insertion, depth of intrathecal space & needle trajectory is vital in such cases. [2]
- **Airway USG** well in advance provide site for tracheostomy in cases of failed CNB.
- **Disadvantage-** Possibility of partial or incomplete block, which was taken care with USG guided B/L rescue TAP block with systemic analgesic for mitigation of pain

CONCLUSION

- Based on the clinical assessment, full stomach status and availability of Ultrasound, administration of spinal anesthesia was the best option for this patient.
- **Ultrasound is boon** for accessing spine in patient with difficult spinal anatomy and pregnancy for deciding correct spinal interspace and successful outcome with fewer attempts and providing guided block and accessing airway.

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