



65 YEAR OLD MALE K/C/O ANKYLOSING SPONDYLITIS POSTED FOR ORIF I/V/O FRACTURE I/T UNDER REGIONAL ANAESTHESIA

Anaesthesiology

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ABSTRACT

Ankylosing spondylitis can present significant challenges to the anaesthetist as a consequence of the potential difficult airway, cardiovascular and respiratory complications, and the medications used to reduce pain and control the disease. There is also an increased risk of neurological complications in the peri-operative period. Awake fibre-optic intubation is the safest option in those patients with a potentially difficult airway as it allows continuous neurological monitoring while achieving a definitive airway. The medical management of the disease has improved with the use of anti-tumour necrosis factor- α agents. There is potential for increased wound infection in patients taking these drugs. In this case report we will discuss anaesthetic management of 65 years old male known case of Ankylosing spondylitis posted for ORIF I/V/O Fracture I/T using USG guided CSE.

KEYWORDS

Awake fiberoptic intubation, ankylosing spondylitis , anti tumor necrosis factor α , CSE

INTRODUCTION

Ankylosing spondylitis can present significant challenges to the anaesthetist as a consequence of the potential difficult airway, cardiovascular and respiratory complications, and the medications used to reduce pain and control the disease. There is also an increased risk of neurological complications in the peri-operative period. Awake fibre-optic intubation is the safest option in those patients with a potentially difficult airway as it allows continuous neurological monitoring while achieving a definitive airway. The medical management of the disease has improved with the use of anti-tumour necrosis factor- α agents.¹ There is potential for increased wound infection in patients taking these drugs.

65 year old male K/C/O ankylosing spondylitis from past 15 years was posted for surgery i/v/o fracture I/T right side after history of fall while walking. Patient had history of cervical and thoracolumbar spondylitis with inability to bend forward or sideways since 7 to 8 years. Cardiorespiratory system examination and all blood investigations were normal while xray showed typical bamboo spine. Airway examination revealed restricted neck movements and limited mouth opening of less than 3 cm therefore airway was anticipated to be difficult. Before taking patient in OT fresh written informed consent was taken explaining anesthesia risk and difficult airway cart was prepared along with fiberoptic preparation.

Anesthesia plan decided was to attempt first, combined spinal epidural approach by experienced anesthetist i/v/o typical bamboo spine and anticipated difficult airway. Patient was taken in OT, standard monitoring was attached and vitals were recorded. After best possible positioning under all aseptic precautions epidural insertion was attempted at different spinal levels using different approaches but failed. I/V/O difficult airway senior anesthetist advised to plan CSE approach using USG guidance.

USG with linear array transducer probe (6 to 10 MHz) was used to visualise the spine with patient in sitting position. Patient's spine was scanned from L1 level downwards in transverse midline and parasagittal planes. Interlaminar spaces were very poorly visualized and were very narrow at almost all levels except at L3-L4 where spaces could be distinguished more clearly. Point of best visualization was identified and by placing transducer complete scan was done. At L2-L3 level ligamentum flavum and posterior longitudinal ligament could be distinguished. With ultrasound guidance 18 G epidural needle was inserted at midline of L3-L4 level, epidural space was identified by LOR to saline and air and epidural catheter was fixed at 10 cm. Then 26 G Quinke's spinal needle was introduced at the same level, subarachnoid space was identified in single attempt and free flow of CSF was noted. Inj Bupivacaine 0.5% H 2.8 cc was injected after free flow of CSF. Sensory and motor blockade was adequate and surgery was allowed. Intraoperatively patient remained haemodynamically stable and surgery lasted for 1 hr 30 minutes. Epidural was activated with 0.125% P Bupivacaine at end of surgery for postoperative pain relief. Patient was shifted to PACU and postoperative period remained uneventful.

DISCUSSION

AS is a chronic inflammatory disease of the axial skeleton in which the inflammatory process starts from the sacro-iliac joints and spreads cephalad to affect the spine up to the cervical level along with costovertebral joints. There may be stiffness of the axial skeleton with ossification of axial ligaments and sacroiliac joints, along with decreased intervertebral spaces causing spinal rigidity. (1) The formation of bony bridges (syndesmophytes) between vertebrae results in a classic "bamboo spine" appearance. These changes make administration of both general and regional anaesthesia difficult. Regional anaesthesia offers many advantages over general anaesthesia in these patients, but central neuraxial blocks are known to be difficult, though not impossible, depending upon the severity of the disease. They have been underutilised in the past and there are only a few reports of successful spinal and epidural puncture in patients with AS. (2) In the largest review of 80 patients over a 10-year period, Schelew et al. planned spinal anaesthesia in only 16 patients out of which they reported success in 10. (3) A paramedian approach may be easier because of the midline ossification of the interspinous ligaments. Taylor's approach, a paramedian approach to L5-S1 interspace, may also be better to access in some cases. [6] US may also be a useful preoperative assessment tool for assessing the feasibility of central neuraxial blockade when technical difficulty is anticipated. (4-8) Chin et al. demonstrated accurate location of L5-S1 intervertebral space with US when several attempts on lumbar puncture had failed in the same patient. [9] Karmaker et al. could access the epidural space successfully in one attempt in 14 out of 15 cases using real-time US. (8) This case also shows that US guidance can be a very useful tool in patients where technical difficulty in central neuraxial block placement exists.

CONFLICT OF INTEREST -nil

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