

Role of Thoracic Epidural Analgesia in Cardiac Surgery in Patient with Severe Scoliosis

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Thoracic epidural anesthesia (TEA) has been used in high-risk cardiac surgical patients as an adjunct to general anesthesia.¹ Epidural anesthesia has improved analgesia and outcomes after cardiac surgery.² We report here a case of severe scoliosis who underwent mitral valve replacement under general anesthesia plus high TEA.

A 22-year-young female, a known case of Marfan syndrome came to us with severe mitral regurgitation due to mitral valve prolapse for mitral valve replacement. Her height and weight was 172 cm and 35 kg, respectively. Preoperative examination revealed she had a severe scoliosis with convexity toward right side (►Fig. 1). Her pulmonary function test showed severe restrictive lung disease with forced expiratory volume in 1 second (FEV1) which was 1.43 L (43% predicted) and FEV1/FVC% (forced vital capacity percent) was normal.

In view of her poor pulmonary status, a thoracic epidural catheter was placed at the level of T1-T2 by hanging drop

technique night before surgery. The next day she underwent mitral valve replacement with a bioprosthetic valve. Postoperatively she was kept on epidural ropivacaine 0.375% infusion at 6 mL/h. She was extubated 12 hours after surgery. The epidural catheter was removed on third postoperative day.

Median sternotomy for cardiac surgery causes uncoordinated chest expansion and weakness of respiratory muscles. Patients with underlying respiratory problems are at increased risk of pulmonary complications postoperatively. Hyperreactive airway, postoperative pain, immobilization after surgery, and sedative analgesics compound the problem. Mehta et al has shown that TEA might decrease pulmonary, cardiovascular and renal complications, provide better analgesia without sedation, and allows early extubation in high-risk cardiac surgical patients.^{1,3} Analgesia without sedation helps in rapid mobilization of the patients and active pulmonary rehabilitation after surgery. Hemmerling et al also demonstrated earlier extubation and oxygen withdrawal time with high TEA.⁴

Conflict of Interest

None declared.

References

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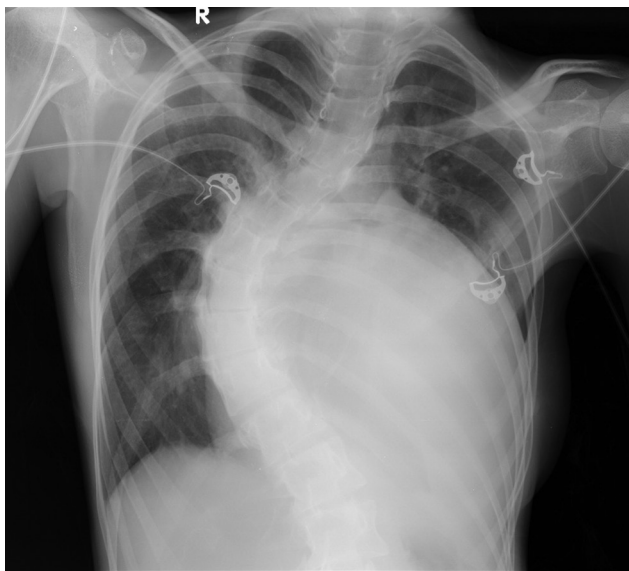


Fig. 1 Chest X-ray showing severe scoliosis.