

## Case Report

# Epidural Anaesthesia Saved A Patient With Multiple Co-Morbid Condition

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### Abstract

*Epidural anaesthesia has been routinely used for many years and widely accepted as an effective method of pain relief. The procedure is commonly performed as a sole anaesthetic or in combination with spinal or general anaesthesia. In our case Md. Alauddin, 59 years old male was admitted in KYAMCH with complaints of diabetic gangrene of right foot with features of septicemia and he has a long history uncontrolled diabetes mellitus and hypertension leading to developed ischemia heart disease and CRF. After proper evaluation patient's physical status was graded as ASA (American society of Anesthesiologists) class-IV, and selected for above knee amputation of right lower limb but patient was unfit for anesthesia due to his co morbid conditions. As a life saving procedure the operation was done under epidural anesthesia and per- operative and post-operative recovery was uneventful.*

### Introduction

Epidural anesthesia often referred to as "an epidural" is an injection of local anesthetic agent in epidural space that numbs and stops feeling pain. Areas that can be numbed by an epidural include-the chest, Abdomen, Pelvic area and legs. Numerous studies have demonstrated the benefits<sup>1-4</sup> of epidural anesthesia and analgesia. Well conducted randomized trials have demonstrated intraoperative epidural anesthesia reduces overall mortality and morbidity by approximately 30% compared with general anesthesia<sup>5</sup>.

### Case Report

Md. Alauddin age-59 years male S/O Md. Gohoruddin & Mrs. Ayesha khatun; Vill: Thirail, PS: Sherpur, Bogra admitted in KYAMCH on 13-02-2016 at orthopedic department, presenting with complaints of ulceration with gangrene of right foot for 15 days with features of septicemia. He was suffering from DM and HTN for last 30 years which poorly controlled by medication and has a history of stroke 7 years back with some residual weakness. On physical examination: Appearance: ill looking, mild anemic, pulse-110 beats/minutes, BP: 100/70 mmHg, Temp-102°F, Accessible lymph node-not palpable. Other systemic examination reveals no abnormality except basal crepitation of lung.

### Investigation

FBS:22.5 mmol/L with insulin, CBC: Hb-8.1 gm/dl, Platelet count  $272 \times 10^9$ /L, Total count of WBC  $16.04 \times 10^9$  /L, Neutrophil-78%, Lymphocyte-18.3%, Monocyte-2.6%, ESR-80 mm in 1st Hour.S.creatinine-212.2 micromol/L, Urea-32 mg/dl, HbA1c: 8.9%, CXR-Moderate cardiomegaly, ECG-Old inferior MI, Abdominal sonography reveal mild hepatomegaly with mild Gall bladder sludge. Electrolyte- Hyponatraemia and Hypochloreaemia. Blood group-B Positive.

### Doppler both lower limb vessels

- Bilateral atherosclerotic change.
- No obvious flow in superficial femoral, anteriortibial and arterial dorsalispaedis of right lower limb.
- No detectable flow in superficial femoral artery of left lower limb.
- About 70%-90% flow reduction in rest of the arteries of both lower limb.

### Echocardiography

- Moderate left ventricular systolic dysfunction(LV)
- Left ventricular ejection fraction 36%
- Mild Mitral regurgitation.

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- Dilated left atrium and left ventricle
- Mild tricuspid regurgitation with moderate pulmonary hypertension.

After proper evaluation patient's physical status was graded as A class-4 and selected for right sided above knee amputation. The challenge was about anaesthesia, because the patient was unfit for any type of anaesthesia as a life saving procedure the operation was done under epidural anaesthesia using bupivacaine and adjuvant fentanyl preoperative vital parameters of the patient not significantly altered and postoperative recovery was excellent and uneventful.

## Discussion

Epidural regional anesthesia is safe and cost-effective technique for providing quality surgical anesthesia and prolong post operative pain relief and thus also effective in blunting autonomic, somatic and endocrine response triggered by surgical insult. International consensus on neuroaxial anesthesia and analgesia (2007)<sup>6</sup> revised and accepted for use of a poly pharmacological approach for treatment of intra and post operative pain and relaxation. Extensive research had done and continuing on local anesthetics and various adjuvants added to them. In this case bupivacaine and fentanyl<sup>1</sup> was used. Epidural bupivacaine has been using extensively for many years<sup>7</sup>. In the regression of motor block bupivacaine is excellent to its rapid onset of action and less cardiotoxicity<sup>8</sup>. Onset of sensory block (8 to 30 minutes) maximum upper spread (T7-T8 after L2-3 or L3-4 lumbar space injection) and duration (4-6 hours) are similar after equal doses of levobupivacaine and bupivacaine 15 ml of 0.5%<sup>9,10</sup>. Addition of adjuvant enhance the effectiveness of local anesthetics by reducing development of tolerance. Epidural anesthesia and analgesia have the potential to reduce or eliminate perioperative physiologic stress responses to surgery and thereby decrease complications and improve outcomes. The effect of epidural anesthesia and analgesia on cardiovascular coagulation, pulmonary, gastrointestinal physiology, surgical stress response, immune function cognition, complications and surgical outcomes studied extensively and results are excellent in favor of epidural anesthesia. In this patient epidural anesthesia avoided fluid overload cardiac depressant anesthetics drugs, nephrotoxic drugs respiratory depressant drugs etc. which made the operative goal achievable.

## Conclusion

Improvement in equipment drugs and technique have made epidural an excellent anesthetic technique with applications in surgery, obstetrics and orthopedic and other cases. Single injection and catheter techniques can be used for anesthesia and as well as post operative analgesia

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