

## **SUMMARY AND CONCLUSION**

This study was included 90 adult male patients undergoing elective lower limb surgery under general anesthesia. They were classified into 3 groups each containing 30 patients according to the route of administration of morphine:

**Group I (morphine-M group):** comprised 30 patients received morphine 0.10 - 0.15 mg/kg I.M 60 minutes before induction of general anesthesia .

**Group II (morphine-V group):** comprised 30 patients assigned to receive morphine 0.10 mg/kg I.V 15 minutes before induction of general anesthesia .

**Group III (morphine-E group):** comprised 30 patients assigned to receive morphine 0.5-0.1 mg/kg epidurally 30-45 minutes before induction of general anesthesia.

This study was designed to evaluate and compare the efficacy of morphine given by the three routes as pre-emptive analgesic agent in addition to general anesthesia before skin incision .

Pain scores (visual analogue score), cortisol and adrenaline levels as stress hormones, hemodynamic parameters (systolic, diastolic, mean blood pressure and heart rate ), respiratory rate, duration of analgesia and the first request to analgesia was carefully recorded within 24 hours after surgery. side effects like nausea and vomiting , pruritus , respiratory depression and constipation were carefully observed and treated .

Epidural administration of morphine provides effective and long lasting analgesia ,better pain scores and less release of stress hormones(cortisol and adrenaline)without harmful side effects than morphine administered by the intramuscular or intravenous routes in addition to general anesthesia.

**Conclusion:**

Epidural administration of morphine in addition to general anesthesia prior to skin incision, is successful analgesic model for postoperative pain relief.