SUMMARY

Regional anesthetics may require adjuvant drugs to improve quality of motor, sensory block and relieve various degree of patient anxiety observed during anesthetic period ***(Miller, 1998).***

Today the objectives for administration of α_2 adrenoreceptors agonists has shifted from reduction of high blood pressure to various other applications including the management of myocardial ischemia and withdrawal symptoms in drug addicts. The development of highly specific α2 adrenoreceptors agonists with profound effects on vigilance and hemodynamics has created new intrest for the use of α2 adrenoreceptors agonists in anesthesia and intensive care medicine α2 adrenoreceptors agonists possess avariety of pharmacological properties that render them desirable as adjuncts in anesthesia. Clonidine an imidazoline, is the prototypal α_2 adrenoreceptors agonists. It has relatively slow onset (0.5 h) and an elimination half life of 9-12 h. The highly specific α2 adrenoreceptors agonist dexmedetomidine was approved in the USA at the end of 1999 for sedation and analgesia in intensive care unit (I.C.U.).

This drug shows unique characteristics : patients are sedated but remain rousable and able to cooperate with staff when stimulated. Moreover, there is no evidence of respiratory depression at clinical concentrations, and the hemodynamic changes are both moderate and predictable ***(Bhana et al., 2000).***

The aim of this study is adding small dose dexmedetomidine to spinal and epidural bupivacine and detect effect on sensory, motor

blockade, post operative analgesia and hemodynamic stability. The first part of this study include fourty male patients aged 60 – 80 years, ASA (I-III) physical status, who were scheduled for transurethral resection of prostate or bladder tumour under spinal anesthesia. The patients were randomly assigned into two groups, 1- Group I (bupivacine group): patients in this group received hyperbaric bupivacine 12 mg. 2- group II (Dex. group): patients in this group received hyperbaric bupivacine 12 mg+ dexmedetomidine 3ug.

Data recorded and timing of assessment:

1- Sensory blockade:

- Assessed by pinprick sensation using blunt 25 – guage needle along the mid-clavicular line bilaterally.
- Sensory blockade assessed starting from time of injection considering zero then every 5 min till 30 min then every 15 min. Till discharge from PACU.
- Sensory regression of 2 dermatome, sensory regression to S1 segment recorded.

2- Motor blockade:

- Assessed according to modified Bromage scale:

  Bromage 0 : patient able to move hip, knee and ankle.

  Bromage 1: patient unable to move hip, but is able to move knee and ankle

  Bromage 2: Patient is unable to move hip and knee, but able to move ankle.

  Bromage 3: Patient is unable to move hip, knee and ankle.

- Assessed in same interval as sensory blockade.
- Time for regression to Bromage 0 assessed.

3- Mean arterial pressure (MAP), heart rate (HR), and pulse oximeter were recorded as baseline values, then every 5 min. Till 30 min then every 30 min. Till discharge from PACU.

- Hypotention was defined as decrease in systolic pressure by 30% from baseline, or a systolic pressure less than 90 mmHg.

- Hypotention treated with 6 mg of intravenous ephedrine and increase rate of fluid infusion.

- Brady cardia was defined as HR < 50 beat / min and was treated with 0.5 mg of intrarenous atropine.

4- Level of sedation was evaluated intraoperative and postoperative using Ramsy scale.

5- Pain was assessed using 100 mm visual analog score (VAS : 0 – 100). Rescue doses of analgesics (VAS > 30/100) were recorded. The rescue analgesics consisted of intravenous NSAIDs.

6- Patients who developed intraoperative or post-operative nausea or vomiting were recorded.

- The second part of this study include fourty patients aged 18 – 60 years ASA (I – II) physical status, who were scheduled for repair of inguinal hernia under epidural anesthesia. Patients were randomly assigned into two groups : 1- group I (bupivacine group): patients in this group received bupivacine 0.5% 20 ml. 2- group II (Dex. group): patients in this group received bupivacine 0.5% 20 ml + 1 ug /kg of dexmedetomidin.

- Data recorded as follow:

1- Sensory blockade:

- Assessed by pinprick sensation using blunt 25 – guage needle along mid daricular line bilaterally :

- assessing : - lag time - time to block T12- T10 – T8
- maximum sensory level
- bolus interval.

2- Motor blockade:

- assessed according to modified Bromage scale.
- assessed every 5 min. Till 30 min. Then every 30 min. Till discharge from PACU.

3- Mear arterial blood pressure (MAP), heart rate (HR), and pulse oximeter.

4- Level of sedation evaluated using Ramasy scale.

5- Pain assessed using visual analogscore.

Conclusions:

Supplementation of spinal or epidural bupivacine with low dose of dexmedetomine produces significantly shorter onset of motor block and significantly longer sensory, motor block and post-operative analgesia. Than bupivacine alone without any significant hemodynamic instability.