A comparison of dexmedetomidine and clonidine in epidural anaesthesia.

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Abstract

Efforts to find a better adjuvant for local anaesthesia have been on-going for a long time. Objectives and objectives were to compare the efficacy and clinical profile of two alpha-2 adrenergic agonists, dexmedetomidine and clonidine, in epidural anaesthesia, specifically providing sedative properties and smooth intraoperative and postoperative analgesia. The focus is on the ability to a prospective, randomized trial was conducted in 50 ASAI/II grade adult patients between her 44 and her 65 years of age undergoing vaginal hysterectomy. Patients were randomly divided into two groups. Ropivacaine plus dexmedetomidine (RD) and ropivacaine plus clonidine (RC), each consisting of her 25 patients. Group RD received 17 ml of 0.75% epidural ropivacaine and 1.5 µg/kg dexmedetomidine and group RC received 17 ml of a mixture of 0.75% ropivacaine and 2 µg/kg clonidine. Onset of analgesia, degree of sensory and motor block, sedation, duration of analgesia, and side effects were observed. The resulting data were subjected to statistical calculations by analysis of variance and chi-square test using a window of the Social Science Statistical Package (SPSS) version 10.0 and a value of P 0 0.05. Dexmedetomidine is a superior nerve stem adjuvant compared to clonidine, providing early onset of sensory analgesia, adequate sedation, and prolonged postoperative analgesia.

Keywords: Clonidine, Dexmedetomidine, Epidural anaesthesia, Ropivacaine, Vaginal hysterectomy.

Introduction

Surgical methods and anaesthesia techniques have evolved and improved dramatically over the past two decades. A number of techniques and drug treatments have been tried from time to time with partial or great success to calm patients under local anaesthesia and eliminate the element of fear. The fear of surgery, the unfamiliar environment of the operating room, the sights and sounds of sophisticated equipment, the dynamics of "operation" during local anaesthesia, and the masked faces of so many strangers all cause patients to panic to some extent. Severe sensory and motor blockage, prolonged supine position, and immobility during local anaesthesia cause discomfort and phobia in many patients. Strong spread of local anaesthetic analgesia to the head can be significant, but its quality may not correlate with the degree of sensory analgesia. At this stage, the impulsive application of large doses of sedatives or the use of masks to provide general anaesthesia defeats the new purpose of local anaesthesia and prevents continued verbal contact with the patient. Lost the ability to provide sedation, stable hemodynamic, and smooth, sustained postoperative analgesia are key desirable properties of adjuvant agents in neuraxial anaesthesia [1].

Patients were randomized to one of two treatment groups based on a computer-generated code in a double-blind fashion. Ropivacaine plus Clonidine (RC), Ropivacaine plus Dexmedetomidine (RD), and ranitidine 150 mg tablets were given as premedication's one day before and in the morning of surgery. The operating room has good venous access and is equipped with a monitor to record heart rate, Electro Cardio Gram (ECG), pulse oximetry (SpO2), Non Invasive Blood Pressure (NIBP), respiratory rate, and baseline parameters. it was done. Drug syringes were prepared by an anesthesia technician who was unaware of the process. The patient was administered an epidural block with needle, the catheter was secured 3–4 cm into the epidural space, and a test dose of 3 mL of 2% lignocaine hydrochloride solution containing epinephrine was administered [2].

Four to six minutes after administration of the test dose, patients in the RC group received 17 ml of 0.75% ropivacaine and 2 µg/kg clonidine. Patients in group were given 17 ml solutions of 0.75% ropivacaine and µg/kg dexmedetomidine. Sensory levels were assessed and checked using the bilateral pin-prick technique, and a modified bromage scale was used to assess motor-blocking effects at 5, 10, 15, 20, 25, and 30 min intervals after epidural administration of the drug. I measured. After the sensory and motor block was fully established, each patient was placed in surgical position approximately 25 to 30 minutes after epidural drug administration. The following block properties were observed and recorded [3].

Initial period of onset of analgesia; best skin level sensory analgesia. Time to full establishment of motor block, regression of analgesia levels in the two segments, regression

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of analgesia levels to the S1 dermatome, and time to full recovery. Sedation grading was assessed using a 5-point scale. Sedation levels were recorded immediately before the start of surgery and every 20 minutes thereafter during surgery [4].

This study was conducted to compare the analgesic, perioperative and postoperative sedative effects of alpha-2 agonists. Our patients' demographic profiles were comparable in terms of mean age, weight, body mass index, ASA grade, and duration of surgery. The results of this study demonstrated that the addition of either 1.5 μg/kg dexmedetomidine or 2 μg/kg clonidine as an adjuvant to epidural ropivacaine not only prolonged the duration of pain relief but also produced better sedation during surgery. Dexmedetomidine has clear advantages over clonidine as it allows early onset and establishment of sensory and motor blockade. Furthermore, the addition of these two adjuvants promotes a more rapid onset of sensory analgesia compared to the onset of sensory analgesia established with ropivacaine alone. The results of our study clearly demonstrate the efficacy of epidural dexmedetomidine with deep sedation in 36% of patients awakened by gentle tactile stimulation compared to 16% with clonidine therapy. Similar levels of sedation were achieved only in patients with Thirty-two percent of patients in the clonidine group remained alert but calm compared to 16% in the dexmedetomidine group who were similarly cooperative and calm. Overall, dexmedetomidine-administered sedation scores were highly statistically significant [5].

Conclusion

Dexmedetomidine is a superior adjuvant to clonidine in epidural anaesthesia in terms of patient comfort, stable cardiopulmonary parameters, and intraoperative and postoperative analgesia. Overall, the experience with dexmedetomidine compared to clonidine was highly satisfactory due to its superior sedative and anxiolytic properties during surgery under local anaesthesia. Cardiopulmonary parameters remained apparently stable throughout the study period, confirming the established efficacy of α-2 agonists in providing hemodynamically stable perioperative and postoperative periods. Small decreases in heart rate and mean arterial pressure were observed in both groups, but never exceeded his 15% of baseline values. The side effect profile of her two drugs was very good, with neither group of patients experiencing significant deep sedation or respiratory depression, which correlates very well with other studies.

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