Dear Editor

Sedation is frequently given to the patients undergoing surgery under regional anaesthesia to mitigate physical and psychological discomfort. Dexmedetomidine, a highly selective α2 agonist sedative, anxiolytic, analgesic, muscle relaxant, with minimal respiratory depression, and with sympatholytic properties is one of the preferred choices. But one has to be cautious, for it has serious cardiovascular side effects including bradycardia and hypotension, which is very commonly observed. We report use of glycopyrrolate infusion to counter hemodynamic side effects dexmedetomidine in a 62-year obese male undergoing open reduction and internal fixation surgery for the fracture of acetabulum and tibia under a combined spinal and epidural block.

The patient was prone for bradycardia with dexmedetomidine infusion and at the same time anxious and also had history of snoring. So, we decided to add 200 µg each of dexmedetomidine and glycopyrrolate with normal saline, to get the final concentration 4 µg/mL of both dexmedetomidine and glycopyrrolate in a single syringe.

Infusion was started with a bolus of 1 µg/kg for 10 min and maintained at 0.5 µg/kg/min for 2 h. Ramsay Sedation Scale was maintained between 3 and 4 while the heart rate was within normal limits throughout the duration. The highest recorded heart rate was 70 per min. Blood pressure fluctuations were within 10% of baseline. The surgery was uneventful and no adverse events were noted postoperatively.

Combined dexmedetomidine and glycopyrrolate infusion: Have we found our solution?

Dear Editor

Sedation is frequently given to the patients undergoing surgery under regional anaesthesia to mitigate physical and psychological discomfort. Dexmedetomidine, a highly selective α2 agonist sedative, anxiolytic, analgesic, muscle relaxant, with minimal respiratory depression, and with sympatholytic properties is one of the preferred choices. But one has to be cautious, for it has serious cardiovascular side effects including bradycardia and hypotension, which is very commonly observed. We report use of glycopyrrolate infusion to counter hemodynamic side effects dexmedetomidine in a 62-year obese male undergoing open reduction and internal fixation surgery for the fracture of acetabulum and tibia under a combined spinal and epidural block.

The patient was prone for bradycardia with dexmedetomidine infusion and at the same time anxious and also had history of snoring. So, we decided to add 200 µg each of dexmedetomidine and glycopyrrolate with normal saline, to get the final concentration 4 µg/mL of both dexmedetomidine and glycopyrrolate in a single syringe.

Infusion was started with a bolus of 1 µg/kg for 10 min and maintained at 0.5 µg/kg/min for 2 h. Ramsay Sedation Scale was maintained between 3 and 4 while the heart rate was within normal limits throughout the duration. The highest recorded heart rate was 70 per min. Blood pressure fluctuations were within 10% of baseline. The surgery was uneventful and no adverse events were noted postoperatively.

Combined dexmedetomidine and glycopyrrolate infusion: Have we found our solution?

Dear Editor

Sedation is frequently given to the patients undergoing surgery under regional anaesthesia to mitigate physical and psychological discomfort. Dexmedetomidine, a highly selective α2 agonist sedative, anxiolytic, analgesic, muscle relaxant, with minimal respiratory depression, and with sympatholytic properties is one of the preferred choices. But one has to be cautious, for it has serious cardiovascular side effects including bradycardia and hypotension, which is very commonly observed. We report use of glycopyrrolate infusion to counter hemodynamic side effects dexmedetomidine in a 62-year obese male undergoing open reduction and internal fixation surgery for the fracture of acetabulum and tibia under a combined spinal and epidural block.

The patient was prone for bradycardia with dexmedetomidine infusion and at the same time anxious and also had history of snoring. So, we decided to add 200 µg each of dexmedetomidine and glycopyrrolate with normal saline, to get the final concentration 4 µg/mL of both dexmedetomidine and glycopyrrolate in a single syringe.

Infusion was started with a bolus of 1 µg/kg for 10 min and maintained at 0.5 µg/kg/min for 2 h. Ramsay Sedation Scale was maintained between 3 and 4 while the heart rate was within normal limits throughout the duration. The highest recorded heart rate was 70 per min. Blood pressure fluctuations were within 10% of baseline. The surgery was uneventful and no adverse events were noted postoperatively.
Although pretreatment with anticholinergics has been tried earlier,\cite{1,2} this is the first attempt at using it as infusion. As it is only a single case report, well-designed trials are needed to validate the concept of the simultaneous use of glycopyrrolate and dexmedetomidine and also to establish the optimum dose/regimen.

**Financial support and sponsorship**
Nil.

**Conflicts of interest**
There are no conflicts of interest.

**Rakhi Bansal, Mritunjay Kumar\(^1\), Harsha Makam**
Department of Anesthesiology and Critical care, All India Institute of Medical Sciences, Jodhpur, Rajasthan, \(^1\)Department of Anesthesiology, Critical Care and Pain Medicine, All India Institute of Medical Sciences, New Delhi, India

**Address for correspondence:** Dr. Mritunjay Kumar, Department of Anaesthesiology, Pain medicine and Critical Care, All India Institute of Medical Sciences, Jodhpur, Rajasthan, India. E-mail: dr.mritunjay@gmail.com

**References**

1. Subramanyam R, Cudilo EM, Hossain MM, McAuliffe J, Wu J, Patino M, et al. To pretreat or not to pretreat: Prophylactic anticholinergic administration before dexmedetomidine in pediatric imaging. Anesth Analg 2015;121:479-85.
2. Available from: https://clinicaltrials.gov/ct2/show/NCT03322150. [Last accessed on 2020 Sep 24].

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.