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CASE REPORT

Delayed Awakening after use of Dexmedetomidine

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SUMMARY

Dexmedetomidine (DEX) is currently being used as a premedication for anxiolysis, as an adjunctive drug both during and after surgery and as an adjunct to attenuate emergence agitation, postoperative pain, and shivering. It is an alpha-2 agonist which is 8 times more potent than clonidine and is also has sympatholytic effects[1]. It is also being used as an adjunct in central neraxial blocks to enhance the quality and to prolong the duration of the block[2,3]. Its use in peripheral nerve blocks is also reported.
Keywords: Anxiolysis, fibroadenoma, agitation

CASE REPORT

We present to you a case of a 20 years old girl who presented as a day case for removal of multiple fibroadenomas from her right breast. She weighted 45kg, was heighted 147cm. She was labeled as ASA 1 and had no any previous anaesthetic records. Vitals taken in the preoperative area were normal and her consent was obtained for errecter spinae plane (ESP) block for postoperative analgesia.

She was taken to the OR and premedicated with 3mg nalbuphine and 40mg lignocaine intravenously and co-induction done with 20mg ketamine and 60mg propofol. Atracurium 20mg was given and after 3 minutes of controlled mask ventilation with 100% oxygen and 2% isoflurane, patient was intubated with 7.0mm endo-tracheal tube and surgery was commenced. She remained vitally stable throughout the surgery and the surgery took place uneventfully. The procedure lasted for 1hour and 15 minutes. At the end of the procedure the patient was turned to lateral decubitus and an ESP block was done at the level of T4 on right side with 20mls of 0.2% bupivacaine and 50mcg of dexmedetomidine. As soon as the patient was turned to supine position again, her heart rate dropped from 86bpm to 49bpm and Also developed hypotension for which 0.6mg atropine and rapid fluid infusion was given and the heart rate increased to 101bpm and her hypotension also subsided. Patient regained spontaneous efforts after with isoflurane was discontinued and after reversing the patient she was extubated in awake plane.

However after about 5 minutes of being on the recovery area, the patient became drowsy and difficult to arouse with painful stimulus. Also patient had sluggish movements of both upper limbs while she could raise her legs easily. She also developed miosis in both eyes however there was no any respiratory depression.

A conclusion was made of dexmedetomidine passing into the epidural space from ESP. the patient remained in the PACU for about six hours, at the end of which she was fully conscious, conversing, pain free and could move her all four limbs easily. The patient was followed up next day. The patient was pain free the entire day and the night of surgery and had no any complains.

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DISCUSSION

Although dex is a safe drug in terms of minimal respiratory depression, it is known for causing bradycardia and sedation which could lead to delayed awakening or prolonged PACU discharge times[4,5]. The regulation of sedation, autonomic function, and pupillary reaction are all inter-related and controlled centrally at the locus coeruleus (LC) due to stimulation of presynaptic a2Aadrenergic receptors by dexmedetomidine. Any pharmacological alteration to this neuronal circuitry would affect the activity at the LC and clinically result in changes in the level of sedation, heart rate, arterial pressure, and pupil size[7-10]. Hence in our case patient developed not only the known side effects but also a rare and not commonly known adverse effect secondary to dex (miosis). A similar case was presented in the British Journal of Anaesthesia with striking similarities to our case report[11].

CONCLUSION

This case report teaches us to have a wide vision and sometimes a paradigm shift when managing a patient with delayed awakening and prolonged recovery room discharge times. Being an anaesthesiologist, it is of utmost importance to keep in the back of mind even the unusual sequelae of drugs used in our daily practice for safe patient care and timely management of complications.

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