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Letter to the Editor

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Peribulbar block with intravenous general anaesthesia in community squint camps

Sir.

Squint is a common problem affecting about 7% of the population, which can be corrected by various methods like refraction, orthoptics or surgery. Surgery involves lengthening and shortening of individual muscles or pair of muscles to achieve cosmetically straightened eyes and binocular vision. If not treated for a long time can lead to amblyopia. However, many misconceptions are prevalent in the general public regarding the treatment modalities. Lack of awareness, surgical facilities, expertise and cost of treatment leaves these patients unattended.

As a social responsibility towards the community, a team of surgeons and anaesthesiologists conducted squint camps in association with an NGO (non-government organisation) in various rural and semi urban areas in 22 districts of Maharashtra, India. Easy and affordable anaesthesia without compromising the safety of the patient is needed in such situations. Being a part of such camps since over 20 years, we have devised and modified various techniques. This study covers 124 free camps conducted over a period of 27 years, where more than 1100 cases were done under general anaesthesia.

After basic ophthalmic screening, medically fit patients (ASA grade 1) were assessed by a paediatrician and reviewed by anesthesiologists and then posted for surgery.³ Generally, patients in the age group 4-14 years are subjected to general anaesthesia and patients above 14 years are operated under local anaesthesia. Total intravenous anaesthesia (TIVA) without intubation combined with peribulbar block was the technique of choice for these patients.

Patients were kept nil by mouth 8 hours prior to surgery. After securing an IV-line, intravenous premedication was given 20-45 minutes prior to surgery outside the operation theatre (OT) which included glycopyrrolate 0.008 mg/kg, ondansetron 0.15 mg/kg, midazolam 0.03-0.06 mg/kg and ranitidine 1 mg/kg. The patient was then taken in the OT, which was well equipped with Boyle's machine, suction apparatus and all resuscitation equipment including emergency drugs.

Oxygen supplement tubing was fixed on the cheek. Neck was extended with support by placing a small pillow below the shoulders. Patient was induced with IV ketamine 2 mg/kg. Peribulbar block was given by the surgeon with 2% lignocaine with adrenaline +0.5% bupivacaine (60:40). Subsequently anaesthesia was

maintained with intermittent boluses of Ketamine 0.5 mg/kg and propofol 0.5-1 mg/kg. Patient was monitored throughout with a pulse oximeter and a precordial stethoscope. Preloaded syringes with atropine were kept ready to correct any oculocardiac reflex. Intravenous dextrose or saline was given according to the requirement of each patient.

Recovery from anaesthesia was usually smooth and uneventful and was monitored. Patients was kept nil by mouth for 3 hours. Postoperative analgesia was given orally with paracetamol and ibuprofen. Minimum complications in the form of post-operative nausea and vomiting (PONV) were noted in 5-10% cases.

Premedication is usually given in the form of an anticholinergic and antiemetic as per choice of the anaesthesiologist. We used glycopyrrolate which is five times more potent than atropine in reducing secretions and three times more potent in preventing bradycardia. Midazolam has a sedative and anxiolytic action, calms the child and reduces secretions as the child is calm and not crying. This helps in reducing the total dose of anaesthetic agent. Ranitidine reduces gastric pH and ondansetron is a centrally acting potent antiemetic.

Induction is usually done with propofol/thiopentone or gas induction using halothane/sevoflurane. Here we used ketamine which causes dissociative anaesthesia and is an excellent analgesic with a high margin of safety. Airway reflexes are maintained and dose dependant hallucinations are reduced because of reduced doses as a result of other supplementary medication.

Traditionally, laryngeal mask airway or endotracheal tube are used to maintain the airway while in our patients, no intubation saved time and the complications of intubation.

Maintenance of anaesthesia is usually done with volatile agents like halothane/sevoflurane or propofol infusion. We maintained the patient on intermittent boluses of IV ketamine and propofol. Propofol is an ultra-short acting agent and it balances the actions of ketamine by reducing hallucinations along with reducing its dose. It has a mild antiemetic action so decreases PONV.⁷

Analgesics in the form of paracetamol or NSAID/ Opioids are given normally according to the choice of anaesthesiologist. We gave peribulbar block which causes paralysis of extraocular muscles and counter-acts nystagmoid movements and the rise of intra-ocular pressure caused by ketamine and also reduces the dose of ketamine and propofol.

Overall, recovery of the patient was smooth without morbidity in TIVA with peribulbar block.

Thus, in conclusion, to provide optimal care for paediatric patients, this unique technique for strabismus surgery is safe and economic, less time consuming with a high turnover which can help us treat strabismus on a large scale. To our knowledge this is the first study done using a combination of peribulbar block with TIVA for squint surgery.

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