Vasovagal mediated cardiac arrest during epidural catheter insertion in a patient with previous uneventful surgeries under regional anesthesia

Madam,
Cardiac arrest at the time of epidural anesthesia secondary to overdose of local anesthetic (LA), intravascular injection of LA, excessive sympathetic blockade has been reported in the literature. Cardiac arrest occurring due to vasovagal syncope during insertion of an epidural catheter and before administration of any medication epidurally has rarely been reported. In both these cases, patient had a history of the vasovagal episode during a previous procedure. We report a patient who had cardiac arrest during the time of epidural catheter insertion at the time of second surgery being done under regional anesthesia.

A 29-year-old male patient was admitted for the free flap to cover a defect in left lower limb. He had a history of trauma 7 months back involving blunt trauma abdomen and heel pad loss. Exploratory laparotomy was done at the time of trauma. After 1 month, he underwent debridement and skin grafting under spinal anesthesia, which was uneventful. Baseline blood investigation and baseline echocardiogram were normal. No premedication was given. In the operation theater, routine monitors were placed. Intravenous access was secured and patient preloaded with 1 L of lactated Ringer solution. After full aseptic precautions, 2% lignocaine was infiltrated at puncture site in sitting position. Epidural space was located at the L3-4 level using 18G Tuohy’s needle in first attempt using loss of resistance to saline. Patient was comfortable till this time. During the insertion of an epidural catheter, heart rate dropped suddenly from 86 to 72 and then to 54. At this point, we asked the patient whether he was comfortable. He complained of dizziness and heart rate fell further to 30. At this stage, the epidural needle was withdrawn and the patient was placed supine. Patient became agitated and violent and started pushing caretakers away. 100% oxygen was given by facemask. Patient became unresponsive; monitor showed asystole and atropine 0.6 mg intravenous was administered. As we were about to begin cardiopulmonary resuscitation, the electrocardiogram showed an escape rhythm followed by a normal sinus rhythm. As our noninvasive pressure was set at 5 min, we did not get any reading of <100 mmHg systolic blood pressure. Patient regained consciousness over next few seconds. Patient was then observed for 15 min and given general anesthesia for surgery thereafter. Surgery was performed uneventfully under general anesthesia with isoflurane and the patient was extubated without any untoward sequelae.

Neurocardiogenic syncope occurs recurrently in a susceptible individual and history of such episodes in previous procedures is usually present. Our patient was a trauma victim and had undergone two procedures both under spinal and general anesthesia. There was no history of any vasovagal attack during previous procedures and patient was adequately hydrated ruling out the main predisposing factors. We believe that nociception provoked vasovagal attack resulting in cardiac arrest in our patient. Young and healthy patients with high vagal tone are more prone to vasovagal attacks resulting in severe bradycardia and cardiac arrest. Our case highlights two things. First, vasovagal attack leading to cardiac arrest can be triggered by the placement of an epidural catheter even before giving any LA. Second, it can occur in patients who have previous uneventful procedures under regional/general anesthesia. Hence, such event should be anticipated even in patients who have previous uneventful surgeries and careful vigilance should be kept on both patient and monitor during the procedure.

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