(9)

Case Study

Cardiac Arrest Following Brachial Plexus Block in a Patient with Missed Brachial Plexus Injury

Vaman Ravindra Bhat MD., D.A., Dip.N.B*, **Maheshwari Kumar** D.A., Dip.N.B (Anaes)**
S. Raja Sabapathy MS., M.Ch., Dip.N.B (Plast)., FRCS (Ed).,***

Abstract :

A 43-year-old man with polytrauma was given a brachial plexus block by the subclavian perivascular approach for the fixation of forearm fractures and management of the crush injury to the hand. At the completion of injection of the drug the patient became apnoeic and developed a cardiac arrest. He was resuscitated successfully and the surgery was performed. Post operatively he was found to have a brachial plexus palsy. A CT myelogram showed traumatic meningocele at the C_8 root. Subarachnoid spread of the local anaesthetic most probably occurred at the site of the avulsed nerve root leading on to the apnoea and cardiac arrest. Supraclavicular brachial plexus blocks are to be avoided in patients with suspected brachial plexus injury.

Key Words : *Brachial plexus block, Total spinal, Brachial plexus injury.*

A 43-year-old man was brought to the hospital with history of road traffic accident, which had happened 24 hours earlier. He had sustained a compound fracture of both bones of the right leg with doubtful vascularity and fracture of both bones of right forearm with crush injury of his right hand. As there was vascular injury to the right lower limb and the ischemia time was more than 24 hours it was decided to do a below knee amputation for the right leg and fixation of the fractures of the forearm bones and metacarpals.

The anaesthetic plan was to give a combined regional blockade, a brachial plexus block for the right upper limb and subarachnoid block for the lower limb.

A subclavian perivascular block was performed with a 23 gauge, 40 mm needle. After eliciting paraesthesia, 40 ml of local anaesthetic mixture (20 ml of 0.5% bupivacaine and 20 ml of 1% xylocaine with adrenaline) was injected. He was continuously monitored during the block with pulse oximetry, which recorded a saturation of 96% and pulse rate 89/mt. The anaesthesiologist was also conversing with the patient while performing the block. At the completion of injection of the drug the patient became apnoeic and was not obeying oral commands. There was no palpable peripheral pulse. He was immediately intubated and ventilated with 100% oxygen. Simultaneously cardiac massage was started. Accidental intravascular placement of local anaesthetic drug was thought of, though the lack of tachycardia was against it. One litre of crystalloid was rushed in along with 15 mg of mephentermine. An infusion of 5 ug kg^{-1} min^{-1} of dopamine was also started. He regained sinus rhythm in about 5 minutes. No defibrillation was necessary to restore the sinus rhythm. He had not regained consciousness. Since his cardiac status was stable and the nonviable limb needed to be amputated it was decided to proceed with the surgery. Intra operatively he was maintained on an infusion of propofol. He was not making any attempts to breathe and hence no neuro muscular blocking drugs were given. Intra operatively the vital parameters were stable. After about

* Consultant Anaesthesiologist, Ganga Hospital, Swarnambika Layout, Ramnagar, Coimbatore.
** Department of Anaesthesiology, Ganga Hospital, Coimbatore.
*** Consultant Plastic Surgeon, Department of Plastic, Hand and Reconstructive Microsurgery, Ganga Hospital, Coimbatore.
Received for publication on 19.04.2003