Complication after continuous brachial plexus block with optimal peri-operative analgesia

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Background : Axillary brachial plexus block is the most widely used regional anaesthesia technique for surgical procedures involving the hand and forearm. It is easy to perform and has few complications. Surgical procedure or trauma, induces not only an acute, painful response, but can also lead to long-term biochemical, histological and functional changes at the central nervous system level (sensitisation). It has been shown that preemptive analgesia may prevent or decrease the painful response, and regimens tested in animals have generated convincing data. However, the analgesic regimens used in humans were inefficient or of too short duration to prevent peripheral and central neurological changes.

Objective : Our objective is to study the incidence of complication after (continuous brachial plexus block) with optimal perioperative analgesia (OPA) in patient undergoing hand surgery, in terms of postoperative pain control, intensity and duration of the local inflammatory response, impact of pain on function and quality of life.

Treatment protocol : 40 patients were participated in this study. Patients were treated from the day of surgery with COX2 inhibitor. Patients were received per-operative analgesia through a brachial plexus block with bupivacaine, a catheter was introduced at the axillary level for 10 cm until it reaches the brachial plexus and kept for 72 hours.

Study outcomes : Validated questionnaires and procedures have been used to assess level of pain acute and chronic after surgery, postoperative local inflammatory response, hand function, impact of pain on quality of life, and activities of daily living. Data were collected before and after surgery by a trained nurse.

Results : Five patients out of 40 that participated in the study have problem with infusion pump setup. One patient suffer from localizing neuropathic pain for 6 weeks postoperatively. All patients tolerate the procedure. Hand function and activities of daily living after surgery are better compared to before surgery.

Conclusion : We conclude that continuous brachial plexus block with optimal perioperative analgesia is a safe procedure with better result compared to traditional procedure.