

block was assessed utilizing shoulder external rotation (suprascapular nerve) and shoulder abduction (axillary nerve) on a three-point scale. A total score of 2 indicates no block, a score of 1 indicates paresis, which is a reduction in force compared to the contralateral arm, and a score of 0 indicates paralysis, which is inability to overcome gravity. A score of 0 indicated a complete motor block. The block was considered successful if the sensory score was ≤ 3 and the motor score was ≤ 1 . Patients with failed block were excluded. The motor block duration (the time from motor block onset to regaining full motor power with a motor score of 2) was recorded.

The grade of hemidiaphragmatic movement involvement was assessed after 30 mins of the block and before induction of general anesthesia by a low-frequency (5–2 MHz) curvilinear transducer (Sonosite, M-Turbo, Washington). The probe was placed in the ipsilateral position of the operated shoulder, subcostally between the mid-clavicular and mid-axillary lines on the right side, and between the anterior and posterior axillary lines on the left side, and directed medially, cephalad, and dorsally to obtain the best imaging using B-mode. M-mode was used to display the excursion of the diaphragm along the selected line.

Diaphragmatic excursion was calculated as follows:

- Complete (HDP) = was defined as a reduction in diaphragmatic excursion that exceeded 75% of the baseline or exhibited paradoxical movement.
- Partial = 25 to 75% decrease from the baseline.
- Normal (no paralysis) = changes between 0 and 25% from the baseline.

Complications (e.g., pneumothorax, hematoma formation, epidural anesthesia, hoarseness, Horner's syndrome, neurological complications, and hand grip weakness) were assessed.

Propofol (2 mg/kg), fentanyl (2 μ g/kg), and atracurium (0.5 mg/kg) were administered to induce anesthesia. Following oral tracheal intubation, anesthesia was maintained using isoflurane (1–2%) on an O₂/air mixture (FiO₂ = 0.5) and atracurium (0.25 mg/kg). Targeting an ETCO₂ of 35–40 mmHg, the lung was mechanically ventilated. To maintain a bispectral index of 40–50, an isoflurane MAC was modified. When the patient's hemodynamic parameters exceeded the baseline by 20%, 1 μ g/kg fentanyl was administered. Glycopyrrolate 0.01 mg intravenously with 0.05 mg/kg neostigmine were administered to alleviate residual neuromuscular blockade following surgery. The postoperative ward was the destination for all patients after they were extubated. Acetaminophen (1 gram) was administered every 8 hours on the first postoperative day.

Block quality parameters (intraoperative hemodynamic parameters, intraoperative fentanyl consumption, and time to the first call of analgesia) were recorded.

Sample size

Sample size calculation was done by an independent statistician with a statistical test power of 80%, confidence interval of 95% based on a review of past literature by Mi Geum Lee, et al. [5]. A sample size of 68 patients, divided into two groups: interscalene group and selective superior trunk group with (34) patients in

Fig. 1. CONSORT Flow Diagram

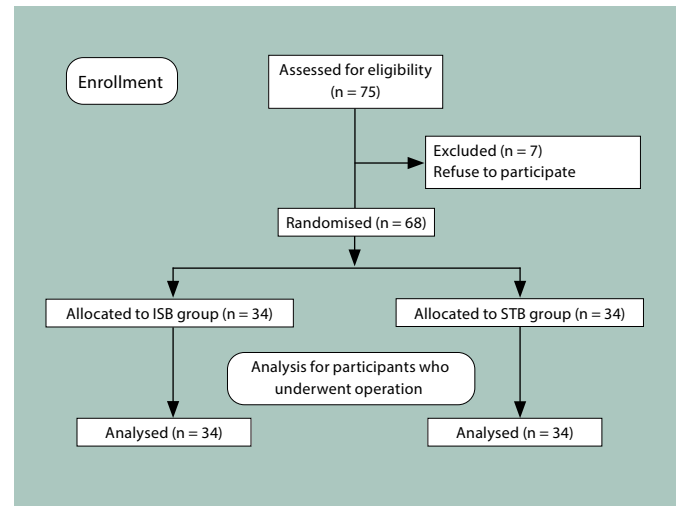


Fig. 2. Mean pulse rate of studied groups

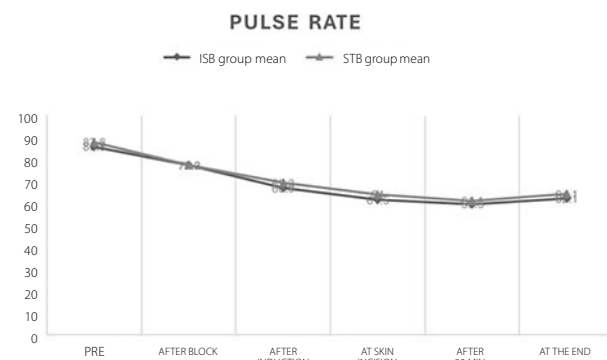
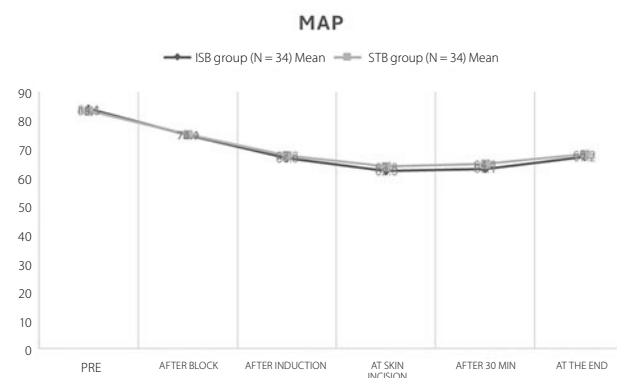


Fig. 3. Mean blood pressure of studied groups



each was sufficient to detect the clinically important difference between both groups.

Statistical analysis

Data were collected, tabulated, and statistically analyzed using an IBM personal computer with Statistical Package of Social Science (SPSS) version 20 (SPSS, Inc, Chicago, Illinois, USA). Quantitative data were presented in the form of mean, standard deviation (SD), range, and qualitative data were presented in the form of numbers and percentages.

Chi-square test (χ^2) was used to study the relationship between two qualitative variables. Fisher exact (FE) was used to study the relationship between two qualitative variables when the expected cell count of 25% of cells was less than five. Student t-test was used for comparison