

Influence of level of training on patient's satisfaction and quality of analgesia when performing axillary blockade

**B. JAVILLIER¹, W. BAYOUDH¹, S. DEGEY², J. DEMOITIE³, J-F. BRICHANT¹,
E. DEFLANDRE^{1,2,3}**

- 1 University of Liege
- 2 Cabinet ASTES
- 3 Clinique St-Luc of Bouge

Background:

Regional anesthesia requires adequate training. In the early phase of regional anesthesia training, it is expected that the time required for performing a block would be longer and the failure rate would be higher. To the best of our knowledge, this relationship has never been studied before.

The purpose of this study was to assess whether the level of training of the anesthesiology resident performing the block impacts the patient's satisfaction and the success rate of axillary brachial plexus blockade for outpatient hand surgery.

Material and Method:

Having obtained IRB approval and patients' informed consent, we prospectively included 186 adult patients scheduled for elective hand surgery and axillary brachial plexus blockade. Blockade was performed with ultrasound guidance. In case of plexus failure, the anesthesiologist had to either administer mild analgesia (5ug of sufentanil) or perform general anesthesia (GA). The patients were divided in two groups according to the training level of the resident performing the blocks. For the group START (88 patients), the residents had no experience in brachial plexus blockade nor in ultrasound guidance. For the group END (98 patients), the residents had performed at least 400 brachial plexus block, before the initiation of the study. We compared the time required to perform the block, the rate of success, as well as patient's "anxiety" and satisfaction. Results were considered significant at the 5% critical level ($P < 0.05$).

Results:

All patients were ASA 1 or 2. The age of the patients was similar in both groups.

Plexus performance: The time required for performing the blocks was significantly longer in the START group (16.67 + 3.59 min) than in the END group (9.3 + 2.41 min), $P < 0.0001$. The supervisor was called or present with the resident more frequently in the START group (42.04%) than in the END group (5.1%), $P < 0.0001$. No difference in patient's anxiety was observed between groups during block performance.

Plexus quality: The level of complete success was higher at the end of the training (83.67%) than at the beginning of the training (75%). However, this difference did not reach the significance level ($P = 0.143$). In each group, general anesthesia was required in one case of each group ($P = 0.816$).

Patient's satisfaction: The patient's overall level of satisfaction was similar in both groups. The level of satisfaction during plexus performance was also similar ($P = 0.340$). The level of satisfaction with the explanations given during plexus performance did not differ between groups. The patients' choice for possible future surgery would be the same type of anesthesia (no difference between groups, $P = 0.602$).

Conclusion:

The resident's level of training influences the duration of plexus performance. However, at the cost of a more frequent instructor's presence, the level of training does not influence the success rate nor the patient's satisfaction. The data can be useful for the management of operating rooms where residents are in training.

Abstract Summary:

Regional anesthesia requires adequate training. The purpose of this study was to assess whether the level of training of the anesthesiology resident performing the block impacts the patient's satisfaction and the success rate of axillary brachial plexus blockade.

We included 186 patients scheduled for elective surgery and axillary brachial plexus blockade. They were divided in 2 groups according to the training level of the resident performing the blocks. We compared the time required to perform the block, the rate of success, as well as patient's "anxiety" and satisfaction.

The resident's level of training influences the duration of plexus performance. However, at the cost of a more frequent instructor's presence, the level of training does not influence the success rate nor the patient's satisfaction.