Letter

Article Title: RELATION OF THE SUCCESSFUL BLOCK REGIONAL ANESTHESIA WITH INCREASED PERIPHERAL VENOUS CIRCUMFERENTIAL LENGTH AND PERIPHERAL SKIN TEMPERATURE AT DISTAL PART OF BLOCK

Letter Subject: Article Revision Letter for Authors - (APIC-2020-11-116)

Letter:
Dear Hanik Badriyah Hidayati,

The revisions for your manuscript titled -RELATION OF THE SUCCESSFUL BLOCK REGIONAL ANESTHESIA WITH INCREASED PERIPHERAL VENOUS CIRCUMFERENTIAL LENGTH AND PERIPHERAL SKIN TEMPERATURE AT DISTAL PART OF BLOCK- and manuscript number (APIC-2020-11-116) was reviewed by Editorial Board of Anaesthesia, Pain and Intensive Care and decided that the following revisions should be done.
Please answer all the comments below, in your answer letter.

You should send your revised manuscript by journal Submit Article page.

Sincerely yours,

My best wishes and kind regards to your family and friends,
Sincerely yours,
Tariq H. Khan
Editor-in-Chief

COMMENTS for Authors:

=> Reviewer # 1

Dear Authors

I appreciate the author's effort in writing the manuscript. I have read the manuscript and make some corrections.
In general, the manuscript has some grammatical errors and need to be revised. The author needs to revise :

Methods
1. Mention the number of study sample size
2. Mention the study sample size calculation
3. Provide the ethical clearance statement of the study
4. Provide statistical analysis of the study. What type of statistical test used in the study?

Result
The result may be presented in a table, figure, or chart to make the reader easier to read the result

Conclusion
1. The conclusions should not consist of the data. It should only consist of a short conclusion. Whether the success of block regional anesthesia has a relation with increased peripheral venous circumferential length and peripheral skin temperature at the distal part of the block

2. The suggestion should move to the discussion section

Reference
Please find the latest references

The other comments can be found in the manuscript

=> Reviewer # 1 --- 2. Review

Corrected Document (Click OR copy+paste link) : http://www.ejmanager.com/mnstemps/103/doc/103-1602597043_BYREV-160704.docx?t=1617618629

=> Reviewer # 2

Congratulations on the interesting paper – evaluating the success of peripheral or subarachnoid block can be challenging and time occupying. Therefore, new and fast modern approaches to this evaluation are welcome.

I would like You to clarify a few aspects from the manuscript:
In the "Introduction" section:
1. In the first paragraph, last sentence states: "Lately, the use of regional anesthesia is growing and expanding 1,2 ." The references to this paragraph are from the year 1996 and 1998 – I think it is a global trend to turn to regional anesthesia – can You provide more recent references?
2. Some of the references seem not to match – in the second paragraph, last sentence "... duration of nerve blocks with lower drug toxicity 3 ." – article concerns vasoconstriction, not drug toxicity. Please check up the references.
In the "Methods" section:
1. Please define on what ground regional anesthesia is considered successful in Your research (motoric bloc, absence of pain in operation field, other?). Did You included the opinion of surgeons whether anesthesia is successful?
2. Can You also mention the criteria of unsuccessful anesthesia? I think it will be good to provide reasons why it was not successful (in the "Results" section) – e.g. incomplete blockade, lack of patient cooperation, etc.
In the "Results" section:
1. Could You mention what kind of surgery was performed? For example, joint-replacement surgery requires efficient muscle relaxation to succeed , so detection of insufficient block would be much easier and though failure rate possibly higher that during superficial procedures.
2. Regional anesthesia is provided to give the surgeon optimal conditions for the procedure – did You considered including surgeons feedback on whether the block was successful?
In the "Discussion" section:
1. Regional anesthesia is usually the part of one-day-surgery or fast-track surgery, where we aim to fast recovery and short anesthesia/surgery times. Can Your method contribute to these ideas – can it possibly speed up the assessment of the success of anesthesia and make it more reliable comparing to traditional methods in tight time schedule? I think it would be good to include such paragraph in the Discussion section.

=> Reviewer # 2 --- 2. Review

Thank you for revising the manuscript, however there are few issues still needed to be addressed.
In the "Introduction" section:
1. the references have been updated, however references numbered 1 and 2 are not referred to in the manuscript – please include them in the text
In the "Methods" section:
1. Evaluation of the block success was based on sensory and motor responses 30 minutes after application of the block, as well as on pain on deep incision (measured with VAS) – please specify whether complete absence of motoric function was required for successful block? What pain intensity – measured in VAS – indicated unsuccessful block?
In the "Results and Discussion" section:
1. Information about the type of surgery was not included – it would be beneficial for the research to include it e.g. in the demographic data table
2. I would still recommend to address the issue of the practical application of this method (measuring the differences in skin temperature, as well as vein circumference) – can it contribute to better identification of successful block? How much time is required to perform those measurements? Please comment in the "Discussion" section.

=> Reviewer # 3

The manuscript is well written in an engaging style, the level is appropriate to our readership. The subject is very important, it is currently a hot topic in regional anesthesia especially peripheral nerve block technique and it is one to which the author(s) have made significant contributions. This manuscript ticks all the checkboxes we normally have in mind for a regional anesthesia subject paper and i have no hesitation in recommending that it be accepted for publication after a few typos and other minor details have been attended to. Given the complexity involved, the author has produced a number of positive and welcome outcomes including the literature review which offers a useful overview of current research and policy, and the resulting bibliography which provides very useful resources for current practitioners. This is a well-written manuscript that does identify an important gap.
This manuscript would benefit from some closer proofreading, there are a few sentences that require rephrasing for clarity

Letter Sent Date: Apr 05, 2021

Anaesth. pain intensive care

RELATION OF THE SUCCESSFUL BLOCK REGIONAL ANESTHESIA WITH INCREASED PERIPHERAL VENOUS CIRCUMFERENTIAL LENGTH AND PERIPHERAL SKIN TEMPERATURE AT DISTAL PART OF BLOCK

Journal Name : Anaesthesia, Pain and Intensive Care
Manuscript ID : 103-1602597043
Manuscript Type : Original Research
Submission Date : 13-Oct-2020

Abstract : Introduction: Regional anesthesia is an anesthetic technique that is suitable for limb and abdominal operations. Nowadays, evaluating the success rate of regional anesthesia is performed with pinprick test, bromage score and pain scale where they act as indicators of motoric, sensory and nosiseptic blockade. Theoretically, sympathetic system is also affected by the regional anesthesia blockade, its effects include vasodilation of blood vessels distal from the location of the block and increased temperature due to disruption of the body core temperature regulator system. This study aims to find the relationship between the success of subarachnoid block (SAB) and peripheral nervous block (PNB) with increasing peripheral venous circumference length and increasing peripheral skin temperature, which is a sympathetic blockade response. The delta value of the temperature change and the length of the vein obtained can be expected to be a marker to predict the success of the block. Method: Analytic observational study of 18 PNB patients and 16 SAB patients in Dr. Soetomo Surabaya. The increased data peripheral venous circumference length was taken 1 hour after PNB and SAB, while the peripheral skin temperature increase data was taken within the range of 5 minutes from the 0th minute until the 30th minute after the block. The association between the success of block with the increase peripheral venous circumference length and peripheral skin temperature was statistically tested with the help of SPSS version 20. Results and Discussions: No relationship was found of sex, age, weight and type of block with increased peripheral venous circumference and peripheral skin temperature with p value > 0,05. The success of the block was found to be associated with the increased peripheral venous circumference length and peripheral skin temperature with a value of p and #8804; 0.001 in both PNB and SAB blocks. The average PNB block succeeded in the 20 minutes while SAB was 5 min with p value <0,05. The delta value of the successful block of the increase temperature is 0.7oC in the PNB and 0.275oC in SAB. Conclusions: The success of PNB and SAB blockade are associated with an increase in peripheral venous circumference length and changes in peripheral skin temperature.

Keywords : KEYWORDS: Regional anesthesia; peripheral nerve block; subarachnoid block; sympathetic block.

ABSTRACT

Introduction: Regional anesthesia is an anesthetic technique that is suitable for limb and abdominal operations. Nowadays, evaluating the success rate of regional anesthesia is performed with pinprick test, bromage score and pain scale where they act as indicators of motoric, sensory and nosiseptic blockade. Theoretically, sympathetic system is also affected by the regional anesthesia blockade, its effects include vasodilation of blood vessels distal from the location of the block and increased temperature due to disruption of the body core temperature regulator system. This study aims to find the relationship between the success of subarachnoid block (SAB) and peripheral nervous block (PNB) with increasing peripheral venous circumference length and increasing peripheral skin temperature, which is a sympathetic blockade response. The delta value of the temperature change and the length of the vein obtained can be expected to be a marker to predict the success of the block.

Method: Analytic observational study of 18 PNB patients and 16 SAB patients in Dr. Soetomo Surabaya. The increased data peripheral venous circumference length was taken 1 hour after PNB and SAB, while the peripheral skin temperature increase data was taken within the range of 5 minutes from the 0th minute until the 30th minute after the block. The association between the success of block with the increase peripheral venous circumference length and peripheral skin temperature was statistically tested with the help of SPSS version 20.

Results and Discussions: No relationship was found of sex, age, weight and type of block with increased peripheral venous circumference and peripheral skin temperature with p value > 0,05. The success of the block was found to be associated with the increased peripheral venous circumference length and peripheral skin temperature with a value of $p \leq 0.001$ in both PNB and SAB blocks. The average PNB block succeeded in the 20 minutes while SAB was 5 min with p value <0,05. The delta value of the successful block of the increase temperature is 0.7°C in the PNB and 0.275°C in SAB.

Conclusions: The success of PNB and SAB blockade are associated with an increase in peripheral venous circumference length and changes in peripheral skin temperature.

KEYWORDS: Regional anesthesia; peripheral nerve block; subarachnoid block; sympathetic block.

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INTRODUCTION

The development of science encourages the implementation of health services that are more effective and economical compared to the methods that are commonly done. This issue includes surgical techniques, anesthesia and also the drugs used. These days, the anesthesiologists are required to provide optimal services, not only to facilitate surgery, but also to be able to provide comfort to patients undergoing surgery. To date, various anesthetic techniques have been developed to facilitate surgery. Lately, the use of regional anesthesia is growing and expanding[1,2].

The regional block use as anesthetic modality in extremity surgeries is increasing at this time and, in the future, it is expected it will become a more selective block with the discovery of new techniques and local anesthetic drugs. Stimuplex, ultrasound for peripheral nerve blocks and new local anesthetic drugs such as ropivacaine and levobupivacaine provide accuracy for identifying nerves and longer duration of nerve blocks with lower drug toxicity[3].

Regional anesthesia is an anesthetic technique suitable for superficial surgery on the extremities and abdomen. However, the achievement of adequate anesthetic effects in this technique is less predictable, so that it can affect the intraoperative process. Regional anesthesia is divided into two major groups, namely Neuraxial Block and Peripheral Nerves Block (PNB); basically, the success of this block involves the nervous system in order to obtain maximum anesthesia. According to theory, in general, the nervous system involved in this block includes sensory, motoric and autonomic nerve blocks[4,5].

At the Integrated Central Surgery Building of Dr. Soetomo General Hospital Surabaya, in 2015 the number of surgical operations with anesthesia of PNB approximately was 117 patients, increasing in 2016 with 123 patients, while the number of patients with SAB anesthesia with short duration (30-60 minutes), was approximately 288 patients in 2015 and increased to 314 patients in 2016.

In regional anesthesia, local anesthetic drugs involve autonomic nerves in which vasodilation of blocked blood vessels occurs, causing disruption of the body's core temperature regulator system. This vasodilation is caused by a sympathetic center block in the posterior hypothalamus, resulting in strong vasodilation in the blood vessels of the skin surface, which allows the acceleration of heat transfer from the core of the body to the surface skin of the blockaded area[6]. Blockade success can be assessed by special tests, such as thermography, plethysmography and laser Doppler flowmetry as additional tests for the activity of sympathetic cholinergic fibers, as, because of such phenomenon, the block changes blood flow through vasodilatory effects on blood vessels[3,7]. Because temperatures in the extremities are largely dependent on blood flow, which also correlates with skin temperature, monitoring changes in skin temperature is the most commonly used and effective technique applied during administration of sympathetic blocks. Skin temperature measurements are used to evaluate the effectiveness of sympathetic blocks in the easiest clinical setting [8,9].

Skin temperature measurement is considered an inexpensive, painless and sensitive method for measuring skin blood flow. Measuring the temperature in the acral region of the body, including the toes and plantar surface and dorsum of the foot, is very useful for showing sympathetic tone[7,10].

A previous study by Park et al. (2010) at the Department of Anesthesiology and Pain Medicine, Seoul National University College of Medicine, Seoul, Republic of Korea, assessed the rate of change in the temperature of the plantar foot surface to predict lumbar sympathetic block success in 85 patients with lower back and extremity pain, achieved at a cut-off for a temperature rise of 0.4°C / minute and time to reach the cut-off point was 5.16 ± 3.25 minutes. The limitations of this study are that there are no random systems and lack of tests for other sympathetic nervous system activities[11].

Ultrasound can also assess the degree of venodilatation in the distal block due to the vasodilation effect of blood vessels. In previous studies, regional anesthesia could help with the surgery of AV fistula because the resulting venodilatation effect facilitated finding veins that were not visualized by physical examination with or without a tourniquet or duplex imaging[12,13].

According to Hingorani, Ascher and Gupta (2006), 34 patients scheduled for procedure of AV fistula placement underwent regional blocks with the use of lidocaine and mixed ropivacaine using nerve stimulator, where axillary, interscalene, or infraclavicular or combination blocks were used. Intraoperative duplex ultrasonography was used to assess venodilatation before and after the block, the result being that the level of venodilatation noted as a percentage increase after block placement compared to after tourniquet application was 42% for cephalic distal, 19% for midcephalic, and 26% for midbasilic vein. With a value of $p < 0.05$[14].

Based on the background description above, the researcher thinks it is important to analyze and observe the pattern of temperature changes and the pattern of length increasing of the distal peripheral vein as a result of the success of the regional block. This is theoretically due to the effect of sympathetic blockade, by looking at the optimal profile of the degree of vasodilation in the diameter of peripheral venous blood vessels before and after the anesthetic block using ultrasound and the degree of temperature change. Analysis was evaluated distally from the block according to dermatomes after regional anesthesia, especially by anesthesia of PNB and SAB to predict the success rate of the block.

METHODS

Design of this research is analytic observational with cross-sectional. The population was taken from all patients who underwent elective surgery at the Integrated Center Surgical Building, Dr. Soetomo General Hospital Surabaya, with regional anesthesia, namely spinal

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Methods
1. Mention the number of study sample size
2. Mention the study sample size calculation
3. Provide the ethical clearance statement of the study
4. Provide the statistical analysis of the study. What type of statistical test used in the study?

anesthesia, with criteria of 60 minutes duration of surgery or all patients with peripheral nerve blocks during a certain period.

Patients were included who were willing to take part in this study and sign informed consent, aged ≥ 16 years, PS ASA 1 or 2, with a maximum surgery time of 60 minutes on the spinal anesthesia block and for peripheral nerve block measurements performed 60 minutes before surgery. Also included were patients without any history of allergy to local anesthetics, bleeding disorders or use of anticoagulant drugs, no infection at the injection site and no sepsis, neurological trauma and neuropathic disorders. Patients experiencing allergies during the surgery were excluded in this study.

Spinal anesthetic and peripheral nerve blocks techniques are independent variables and dependent variables in the evaluation of distal peripheral skin temperature and evaluation of the length of the circumference of the distal peripheral vein veins.

This study uses a thermometer brand Microlife infrared NC-150 to measure peripheral skin temperature. This tool is easy to use, allows measurement of body temperature that is more accurate and sensitive and not invasive without touching the patient, measuring in just 3 seconds. It is multifunction, has passed clinical trials and recommended by doctors. Accuracy of measurement: ± 0.2°C between 36.0 and 39.0°C. This study measured non-invasive peripheral skin temperature without touching the patient before and after being blocked. This thermometer has been used also in previous studies. Strumila et al. also used the mentioned instrument to assess the temperature of the skin surface in hemangioma patients to predict tumor proliferation15. It was also used in the Nassiri et al. (2017) study to assess heat stress in workers involved in open-pit mining. Peripheral skin temperature measurements were taken in the range of 5 minutes from the 0th minute to the 30th minute after the block[16].

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Commented [DP5]: I think the word "circumference" is not suitable for this paper. The author my use other word, for example "diameter of .."

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Commented [DP8]: This section should describe more procedures in measuring the peripheral skin temperature rather than the benefit of thermometer

Commented [DP9]: Brand (Company, Country)

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This research uses Sonoside M- Turbo type ultrasound to measure the circumference length of peripheral venous blood vessels. This ultrasound has High Resolution Imaging, the most versatile system for access to the abdomen, nerves, blood vessels, heart, veins, pelvis and superficial imaging. The M-Turbo® ultrasound system provides striking image quality with sharp contrast resolution and clear network imaging. This ultrasound equipment allows it to visualize details, enhancing the ability to distinguish blood vessel structures and pathology. In this study, the length of peripheral veins was measured using linear transducers, then the images were measured using a caliper. Data on length increase around peripheral veins were taken early before PNB or SAB was performed and 1 hour after blocking. This ultrasound has also been used in previous studies, such as Park et al. (2016) that used the ultrasound to assess interscalene plexus brachialis and brachial blood vessels[17].

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Commented [DP12]: The author previously write "the length of the circumference of the distal peripheral vein veins". Please use the same terminology

Commented [DP13]: Describe the detail of the peripheral venous blood vessels diameter measurement. . Which part of the body where the measurement was took place and how the measurement was done

RESULTS AND DISCUSSIONS

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The total number of subjects in this study were 34 patients divided into 18 patients with anesthesia with PNB blocks and 16 patients with SAB blocks. All study subjects included were based on consecutive sampling. All subjects signed informed consent. This research has been approved by the Commission for Ethical Health Research Division of Dr. Soetomo General Hospital Surabaya.

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Peripheral Nerve Block Anesthesia

Distribution of subjects in this study based on gender found 11 male patients (61.1%) and seven female patients (38.9%). There was no effect of sex differences in the subjects subjected to block PNB with an increase in length around peripheral venous blood vessels and changes in peripheral skin temperature in this study; this was evidenced by the p-value = 0.497 (> 0.05).

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Based on the age of the research subjects, the youngest age obtained was 18 years old and the oldest was 74 years old. In the study, there was an increase in the length of peripheral venous

blood vessels and peripheral skin temperature changes in all 16 people with an average age of 48.50 ± 28.99 years. There was no effect of age differences in the subjects who had undergone PNB with increased length around peripheral venous blood vessels and changes in peripheral skin temperature in this study; this was evidenced by the p-value = 0.914 (> 0.05).

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Based on body weight, the lowest body weight was 53kg and the highest was 90kg. In this study, there was an increase in the length of peripheral venous blood vessels and peripheral skin temperature changes in all 16 people by means of body weight (61.00 ± 11.31kg). There was no effect of differences in body weight of subjects who had undergone PNB with increased length around peripheral venous blood vessels and changes in peripheral skin temperature in this study; this was evidenced by p-value = 0.406 (> 0.05).

There were four types of PNB blocks performed in this study, namely three patients underwent axillary block (16.7%), three patients underwent supraclavicular block (16.7%), six patients underwent interscalene block (33.3%), and six patients underwent femoral sciatic block (33.3%). Of the 18 blocks of PNB that were carried out, 16 blocks were successful (88.88%) and there were two blocks that were unsuccessful (11.12%). There was no effect of differences in body weight of subjects who had undergone PNB with increased length around peripheral venous blood vessels and changes in peripheral skin temperature in this study; this was evidenced by p-value = 0.176 (> 0.05).

Commented [DP18]: The word "no effect of differences" may be changed to "no significant difference"

The PNB was carried out in the same room with the recovery room with the lowest temperature of 27°C and the highest temperature of 28°C. In this study, there was an increase in the peripheral length of peripheral veins and peripheral skin temperature changes of all 16 people by means of room temperature (27.69 ± 0.48°C). There was no effect of the difference in room temperature of the subjects who had undergone PNB with an increase in length around peripheral

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venous blood vessels and changes in peripheral skin temperature in this study; this was evidenced by the p-value = 0.621 (> 0.05).

Based on this study, in all of 16 patients (88.88%) whose PNB were successful, there was an increase in length around the peripheral venous veins distal to the block and no elongation was found in two patients (11.12%) whose block was unsuccessful. From the results of the study, it was found that the success of the block had an effect on increasing the length of the peripheral venous veins distal to the block with a p value of 0.001. This was in line with previous studies conducted by Reynolds et al. (2011) which also found a significant effect on the success of the block with a long increase in peripheral vein distal block length, with an average increase of 21.4% with p <0,05[18].

From the results of the study, it was found that the success of the block had an effect on increasing the peripheral skin temperature in the distal block with a p value of 0.001. This was in line with previous studies conducted by Hermanns et al. (2007) obtained from 45 patients (43 blocks succeeded) and (two blocks did not succeed) occurred at 20th minute; there was an increase in peripheral skin temperature of 1.5°C with a standard deviation of 0.4°C with a value of p <0.05[19].

The lowest temperature value before blocking (0 th minute) is 35.5°C and the highest temperature is 36.6°C. with means value of temperature 36.0438°C and standard deviation 0.30104. On average, the block was successful at 20th minute with a mean increase in temperature of 36.7688°C, standard deviation 0.27981 and p = 0.039. Delta temperature increase where the PNB block is successful is 0.7°C and the standard deviation is 0.265. This is in line with research conducted by Frank et al. (2000) who received an average increase in temperature of 0.64°C with a standard deviation of 0.09 after the block was successful[21].

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Commented [DP23]: The standard deviation can be written in the brackets. For example 36.0438°C ± 0.30104

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Subarachnoid Block Anesthesia

The number of research subjects based on sex was seven male patients (0.44%) and nine female patients (0.56%). There was no effect of sex differences in the subjects who had undergone SAB with increasing length around peripheral venous blood vessels and changes in peripheral skin temperature in this study; this was evidenced by the p-value = 1.00 (> 0.05).

Based on this study, of the 15 patients (94%) whose block were successful, there was an increase in peripheral skin temperature in the distal part of the block and there was no increase in temperature in one patient (6%) whose block was unsuccessful. From the results of the study, it was found that the success of the block had an effect on increasing the peripheral skin temperature in the distal block with a p value of 0.001. This is in line with the previous research conducted by Jetzek-Jader et al. (2006) obtained from 15 patients who had performed spinal anesthesia on the soles of the feet (plantar pedis), in which there was an increase in peripheral skin temperature with an average increase of 1.7°C with a value of p = 0.001[21].

The lowest temperature value before the block (0th minute) was 35.6°C and the highest temperature was 36.3°C. with means value of 35.82°C and a standard deviation of 0.20424.

The block average was successful at 5th minute with a mean increase in temperature of 36.1467°C, standard deviation 0.27997 and p = 0.001. Delta temperature increase where the SAB block was successful is 0.2750°C and the standard deviation is 0.15275.

CONCLUSIONS

In this study, based on statistical analysis and discussion, it can be concluded that:

Peripheral Nerve Block Anesthesia

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1. The conclusions should not consist of the data. It should only consist of a short conclusion. Whether the success of block regional anesthesia has a relation with increased peripheral venous circumferential length and peripheral skin temperature at the distal part of the block

2. The suggestion should move to discussion section

1. From the results of the study it was found that the success of the block had an effect on increasing the length of the peripheral vein distal part of the block with a value of p = 0.001
2. From the results of the study, it was found that the success of the block had an effect on increasing the peripheral skin temperature in the distal block with p = 0.001
3. On average, the block was successful at 20th minute with a mean increase in temperature of 36.7688°C, standard deviation 0.27981 and p = 0.039. (p <0.05)
4. Delta temperature increase where the PNB was successful was 0.7°C and the standard deviation was 0.265.

Subarachnoid Block Anesthesia

1. From the results of the study, it was found that the success of the block had an effect on increasing the length of the peripheral vein distal part of the block with a value of p = 0.001
2. From the results of the study, it was found that the success of the block had an effect on increasing the peripheral skin temperature in the distal block with p = 0.001.
3. On the average, the block was successful at 5th minute with mean value increasing temperature 36.1467¬∞C, standard deviation 0.27997 and p value = 0.001 (p <0.05)
4. Delta temperature increase where there was successful SAB block was 0.2750¬∞C and the standard deviation was 0.15275.

SUGGESTION

1. In principle, the quality of operators may affect the success of the block, so that, for further research, it is recommended that data on block success be carried out by operators who have equivalent skill qualifications in order to reduce the maximum possible bias.

2. Data taking of block success in future studies is recommended to be carried out on the same type of block and type of operation to reduce bias. It is recommended that data block success is carried out on the same type of block and surgery. In this study, it was conducted on several different types of blocks and different surgeries.
3. For a more concrete assessment of the peripheral skin temperature and length of peripheral venous blood vessels, it is recommended that the assessment be carried out continuously so that direct changes in this study can be ascertained.
4. There is need to assess the effects of other sympathetic blocks such as sweat glands, etc.
5. Comparison of temperature and length of peripheral veins in extremities and at the same point which are not blocked should be done.

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April 17, 2021

Dear Christrijogo Sumartono, Soni Sunarso Sulistiawan, Belindo Wirabuana, Herdiani Sulistyo Putri, Arif Johansyah, Hanik Badriyah Hidayati,

I am pleased to inform you that your manuscript titled as "RELATION OF THE SUCCESSFUL BLOCK REGIONAL ANESTHESIA WITH INCREASED PERIPHERAL VENOUS CIRCUMFERENTIAL LENGTH AND PERIPHERAL SKIN TEMPERATURE AT DISTAL PART OF BLOCK" (Manuscript Number: APIC-2020-11-116 was accepted for publication in the Anaesthesia, Pain & Intensive Care. You could check your possible publication date at your author page.

You may login to your author account page, and visit accepted articles section in order to get offical/formal acceptance letter as PDF.

I would like to remind that you could send your future manuscripts to Anaesthesia, Pain & Intensive Care.

My best wishes and kind regards to your family and friends,
Sincerely yours,
Tariq H. Khan
Editor-in-Chief