



Single Plantar Injection TOE Block - The Ideal Block for TOE Nail Surgeries

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ABSTRACT

Aim: The objective of the study was to evaluate and analyse the effectiveness of the single plantar injection technique for toe analgesia in toe nail surgical procedures. **Methodology:** This study was conducted at ACS Medical College Hospital, Chennai. Sample of one hundred patients who were in need of toe nail surgical procedure age between 18—68 years during July 2014 – June 2015. The data were analysed. **Result:** The effectiveness of this technique is 100% with minimal morbidity.

KEYWORDS : TOE ANALGESIA, INGROWING TOE NAIL & TOE NAIL INFECTION

Introduction:

Injury, infection and in growing nails are the frequent reasons for toe nail surgeries. Till now toe analgesia is being given through combinations of any of— web space approach or lateral approach or dorsal approach to block the pain sensation of the whole toe. Based on the observation —“Each proper digital nerve has dorsal cutaneous branch which supplies structures around the nail” (Ref- Gray's Anatomy : The Anatomical Basis Of Clinical Practise : fortieth edition: page number 1457) this innovative Single Injection toe block technique for toenail surgical procedures is successfully designed. This technique was followed and onset of analgesia, time taken for complete analgesia and the post procedure block related data were analysed.

Study methodology:

Study design:

This study was done to evaluate and analyse the effectiveness of the single plantar injection technique for toe analgesia in toe nail surgical procedure.

Materials and methods:

This procedure was done at ACS Medical College Hospital, Chennai. A sample of one hundred patients who were in need of toe nail surgical procedure – toe nail injury, paronychia which needed incision and drainage and ingrowing toe nail; age between 18—68 years; during July 2014 – June 2015 were taken in this study. All the patients were counseled for this innovative technique and their consent taken. General examination was done for all the patients. Patients with accompanying other major injuries were excluded from the study. Selected patients were checked for allergic reactions against Lignocaine.

In this technique of toe block after proper sterile preparation of the foot, 1—2 ml of 2% lignocaine was injected under strict aseptic precautions over the midline of the toe at metatarso phalangeal joint level in the plane just superficial to the fibrous flexor sheath on the plantar aspect with 24-26 gauge needle. After waiting for 10 seconds, the sensation of the toe tip and peri ungual region were checked for initiation of the analgesia and the complete analgesia. After achieving the complete analgesia the planned surgical procedure was done. Visual analogue score was used to assess the pain intensity.

Post operative review of the patient in relation to the lignocaine injection was done after 24 hours.

Inclusion criteria:

All male and female with isolated toe pathology between the age of 16—68 years.

Exclusion criteria:

- Associated major injuries
- Allergic reactions to lignocaine
- Severe Peripheral neuritis
- Non cooperative and patients who were not willing for this new technique

Hypothesis:

Single plantar injection toe block is a simple and effective method of analgesia during toe nail procedures.

Data analysis:

Biological variants:

Male 56, female 44

Age variants:

- 16 – 20 years 6
- 21 – 30 years 13
- 31 – 40 years 46
- 41 – 50 years 22
- 51 – 68 years 13

Pathology variants:

- Nail injury 36
- Paronychia 49
- Ingrowing toe nail 15

Anatomical variants:

- Great toe 59
- Second toe 31
- Third toe 4
- Fourth toe 5

- Fifth toe 1

Visual analogue scoring:

- Score 0 -3 48
- Score 4 -6 40
- Score more than 6 12

Results:

All the toe blocks were successful and 100% effective.

The analgesia started after 15 -- 85 seconds. Mean – 40 seconds.

Complete analgesia was achieved in 25—172 seconds. Mean 92 seconds.

The surgical procedure time was 20 – 45 minutes. Mean 36 minutes.

Analgesia lasted from 80—225 minutes. Mean 110 minutes.

The post operative “analgesic injection” related morbidities were insignificant.

Discussion & Conclusion:

As the proper plantar digital nerve gives the dorsal cutaneous branch which supplies the skin around the nail, blocking the proper digital nerve at the metatarso phalangeal joint level on the plantar aspect of the toe provides pain relief around the nail. The analgesia starts quickly and the effect is complete.

This technique has the following advantages.

- Single injection
- Simple and safe
- 100% effective for toe nail procedures

References:

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