

INTRODUCTION

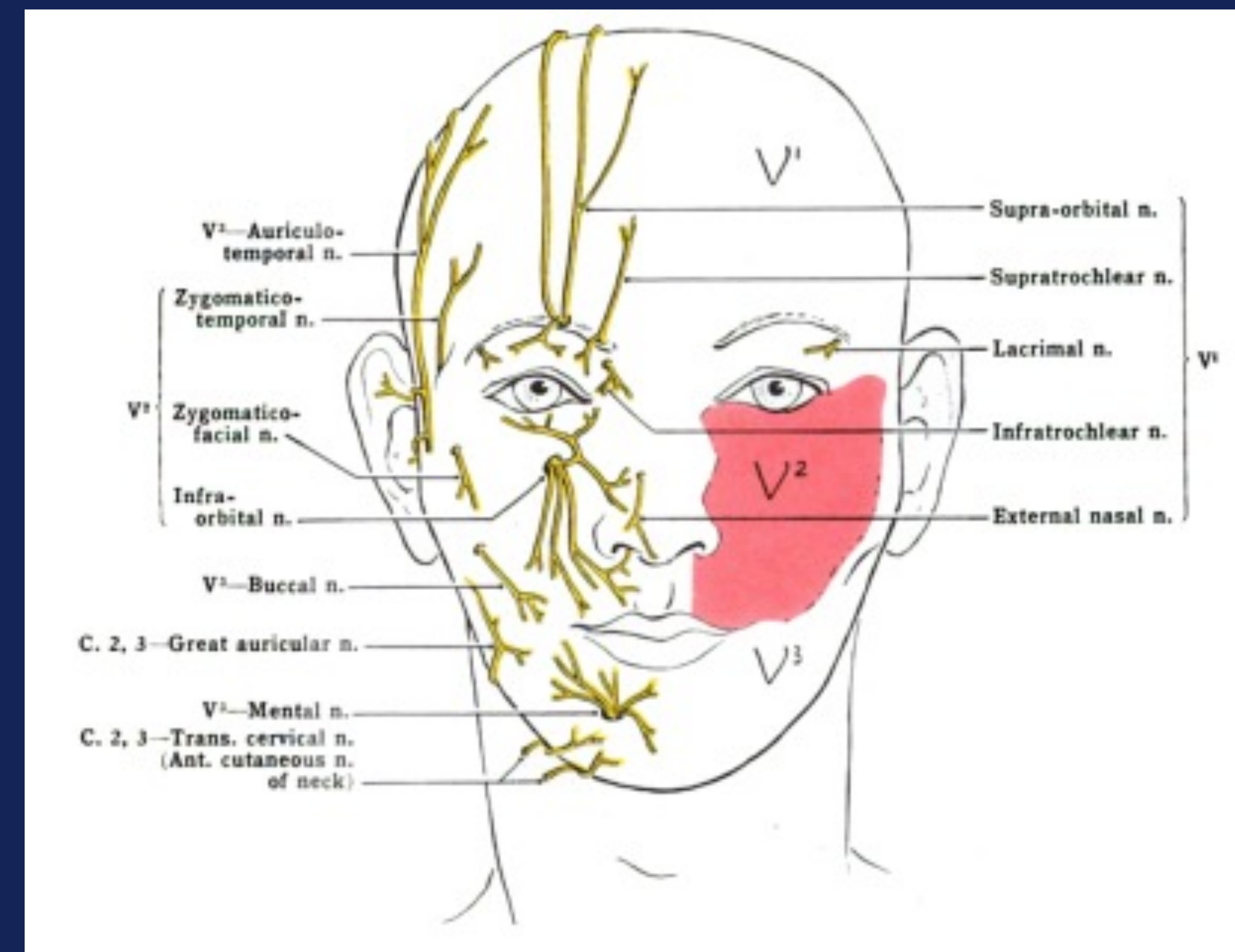
This case series presents three distinct cases where facial nerve blocks (supraorbital, infraorbital, mental) were administered using an insulin pen (31G x 6mm) to alleviate pain for different facial injuries. Although studies have explored the advantages of nerve blocks over local infiltration, there has been limited examination of using a smaller gauge and shorter needle, such as the insulin pen. While needle size selection should be individualized based on patient characteristics and clinician experience, opting for a smaller gauge needle with a shorter length, akin to an insulin needle, could potentially offer a more comfortable and less painful experience. This, in turn, may enhance patient compliance and acceptance of facial nerve block procedures.

METHODS

- The following three cases involve separate patients treated at a Level 1 academic tertiary care and trauma center in Philadelphia, PA.
- All three patients underwent facial nerve blocks using an insulin pen (31G x 6mm) containing lidocaine 2% without epinephrine for their laceration repair.
- All three patients were offered alternate local infiltrates
- The block technique involved palpating anatomical landmarks, disinfecting the injection site with chlorhexidine, and ensuring negative aspiration for blood prior to incremental injection.
- Successful analgesia was confirmed after a minimum 5-minute wait.

Case Series On Using Insulin Pen For Facial Nerve Blocks For Pain Management

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Case 1: Supraorbital Nerve

Patient: A 34-year-old male presented with a left forehead laceration that did not cross the midline after syncope, which resulted in hitting his forehead on a shower railing. Due to the patient's fear of needles, a left supraorbital nerve block was proposed using an insulin pen. The patient was informed that the nerve block's success might be unsuccessful due to the smaller gauge and length of the needle, potentially necessitating repeat procedure block with a larger needle. Despite this, the patient consented and achieved successful analgesia with the insulin pen. The laceration was sutured, and the patient was discharged with appropriate follow-up.

Case 2: Infraorbital Nerve

Patient: A 28-year-old male presenting with left upper lip laceration across the vermilion border following a dog bite. An infraorbital nerve block through an extraoral approach was attempted to preserve the integrity of the vermilion border. After a 5-minute wait, adequate analgesia was not achieved, prompting a successful intraoral approach with a longer gauge needle. The wound was cleaned with copious irrigation, wound closed, and the patient was discharged with oral antibiotics.

Case 3: Mental Nerve

Patient: A 21-year-old female presenting with right lower lip laceration across the vermilion border and right chin after a bicycle accident. A right mental nerve block was performed with successful analgesia allowing better approximation of the vermilion border and laceration repair. The patient was discharged with close follow up.

DISCUSSION

- This case series underscores the versatility and effectiveness of using an insulin pen for facial nerve blocks in managing a range of facial injuries, most commonly facial lacerations.
- Needle size decision should be based on careful patient selection considering individual patient characteristics and clinician experience.
- Smaller gauge needle with a short length like an insulin needle may minimize the risk of nerve damage, potential orbital entry during the infraorbital nerve block via intraoral approach, tissue injury, and patient discomfort.
- The prospect of a less painful and less daunting needle will provide a more comfortable experience that encourages patient compliance and acceptance of facial nerve block procedures. This is especially important for complex facial injuries, such as lacerations involving the vermilion border that may require precise approximation that a local infiltrate may distort.
- Infraorbital nerve may not be ideally targeted with a shorter needle for deeper nerves, such as the infraorbital nerve via the intraoral approach.
- The supraorbital nerve may be a suitable target for a smaller needle due to its average cutaneous depth of 0.75 ± 0.16 (range, 0.5-1.1) cm.
- Cutaneous depths for infraorbital and mental nerves have not been extensively reviewed in literature.

References

- Christensen, Kevin N. MD*; Lachman, Nirusha PhD†; Pawlina, Wojciech MD†; Baum, Christian L. MD*. Cutaneous Depth of the Supraorbital Nerve: A Cadaveric Anatomic Study With Clinical Applications to Dermatology. *Dermatologic Surgery* 40(12):p 1342-1348, December 2014. | DOI: 10.1097/DSS.0000000000000174
- Zide, Barry M. D.M.D., M.D.; Swift, Richard M.D.. How to Block and Tackle the Face. *Plastic and Reconstructive Surgery* 101(3):p 840-851, March 1998.
- Hamilton JG. Needle phobia: a neglected diagnosis. *J Fam Pract.* 1995 Aug;41(2):169-75. PMID: 7636457.
- Jankovic, D. (2015). Facial Nerve Block. In: *Regional Nerve Blocks in Anesthesia and Pain Therapy*. Springer, Cham. https://doi.org/10.1007/978-3-319-05131-4_7
- By Grant, John Charles Boileau - An atlas of anatomy, / by regions 1962, Public Domain, <https://commons.wikimedia.org/w/index.php?curid=30134901>