

Minimal Pain Tumescence Local Anesthesia Injection for Wide Awake Modified Radical Mastectomy

L'anesthésie locale par tumescence associée à une douleur minimale en vue d'une mastectomie radicale modifiée éveillée

Sameer M. Pandya, MD¹ , Tabitha Njuguna, MD¹, Carol Maina, MD¹, Pankaj Jani, MD², and Donald Lalonde, MD³ 

Plastic Surgery
2024, Vol. 32(2) 357-359
© 2022 The Author(s)



Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/22925503221120573
journals.sagepub.com/home/psg

 Sage



Abstract

The advent of minimal pain tumescence local anesthesia injection has improved patient safety by eliminating the need for sedation for many wide awake operations, especially in patients with significant medical comorbidities. Modified radical mastectomy (MRM) for breast cancer is commonly performed under general anesthesia as it requires the dissection of the entire breast and an ipsilateral axillary lymph node dissection (ALND). General anesthesia has been shown to have a high risk in patients with severe medical comorbidities. We present a case of a 78-year-old male patient who was diagnosed with invasive ductal breast carcinoma, cardiac failure, and other metabolic abnormalities. Taking his comorbidities into account, we performed a wide awake MRM and ALND after tumescence minimal pain local anesthesia injection. The patient experienced the successful procedure safely with minimal discomfort.

Résumé

L'anesthésie locale par tumescence associée à une douleur minimale a amélioré la sécurité des patients en éliminant la sédation lors de nombreuses opérations éveillées, particulièrement chez les patients qui ont des affections concomitantes importantes. La mastectomie radicale modifiée (MRM) du cancer du sein est souvent effectuée sous anesthésie générale, car elle exige la dissection du sein entier et la dissection des ganglions lymphatiques axillaires (DGLA) ipsilatéraux. Il a été démontré que l'anesthésie générale comporte un risque élevé chez les patients atteints d'affections connexes graves. Les auteurs présentent le cas d'un patient de 78 ans qui a reçu un diagnostic de carcinome canalaire invasif, d'insuffisance cardiaque et d'autres anomalies métaboliques. Compte tenu de ses affections connexes, les médecins ont effectué une MRM et une DGLA après une anesthésie locale par tumescence associée à une douleur minimale. Le patient a subi avec succès une intervention sécuritaire et a éprouvé très peu d'inconfort.

Keywords

wide awake mastectomy, wide awake lymph node dissection, WALANT, minimal pain tumescence local anesthesia injection

¹ Nakuru County, Referral & Teaching Hospital, Nakuru, Kenya

² University of Nairobi, Nairobi, Kenya

³ Dalhousie University, Saint John, New Brunswick, Canada

Received July 3, 2022. Accepted July 7, 2022.

Presented at WALANT workshop at Jaramogi Oginga Odinga Teaching & Referral Hospital, Kisumu, Kenya on 8th April 2022.

Corresponding Author:

Sameer M. Pandya, Consultant Surgeon, Department of Surgery & Endoscopy, Nakuru County Referral & Teaching Hospital, P.O. Box: 71-20100, Nakuru County, Kenya.

Email: sameerpandya@gmail.com

Mots-clés

mastectomie éveillée, dissection des ganglions lymphatiques éveillée, injection d'anesthésie locale par tumescence associée à une douleur minimale, WALANT

The advent of minimal pain tumescent local anesthesia injection has improved patient safety, experience, and convenience by eliminating the need for sedation for many wide awake operations (no sedation).^{1,2} Modified radical mastectomy (MRM) and axillary lymph node dissection (ALND) for breast cancer is commonly performed under general anesthesia. General anesthesia has been shown to have a high risk in

patients with medical comorbidities. We present a case of a 78-year-old male with invasive ductal breast carcinoma, cardiac failure, and other metabolic abnormalities. We performed a wide awake MRM and ALND after tumescent minimal pain local anesthesia local anesthesia injection. The patient experienced a successful procedure with minimal discomfort.

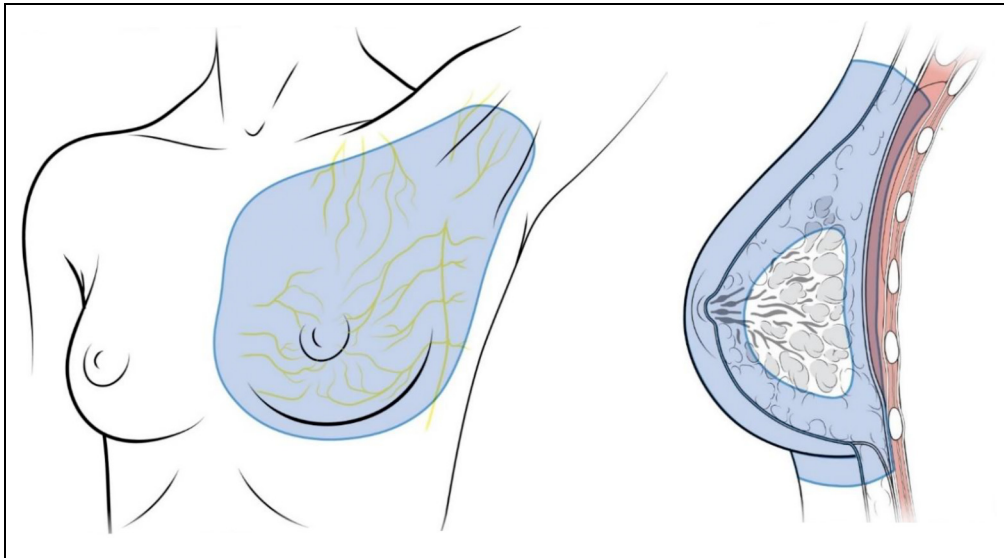
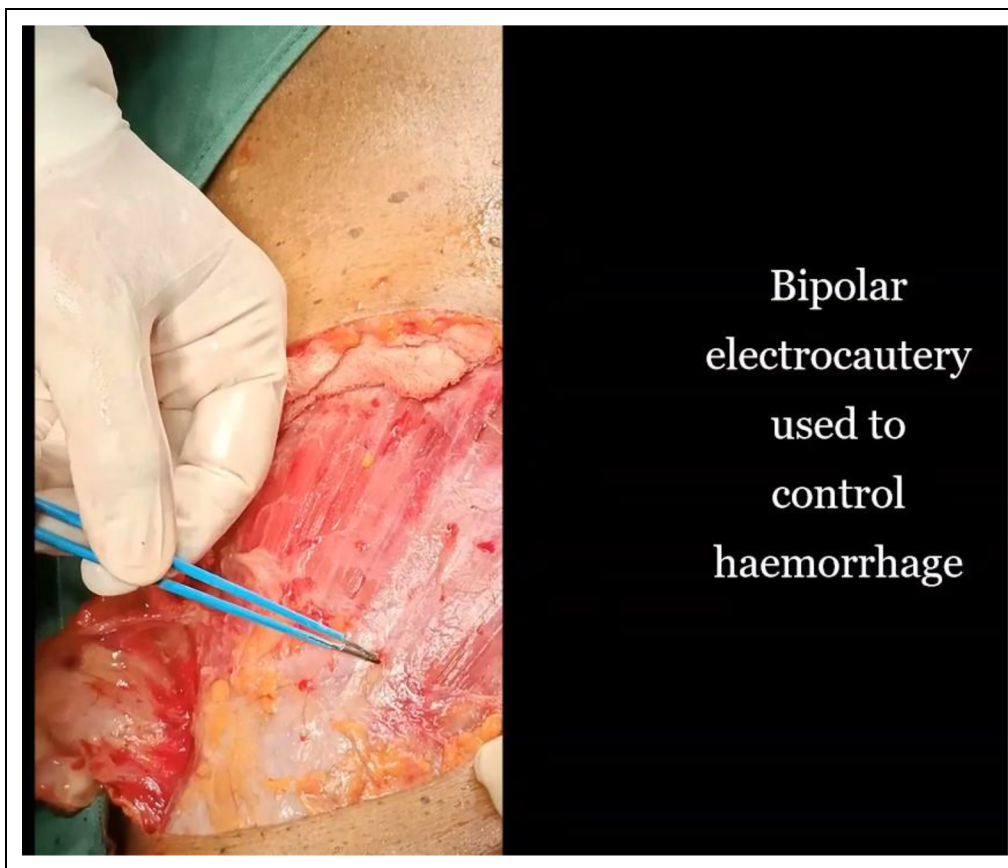


Figure 1. Where to inject tumescent local anesthesia for mastectomy and axillary lymph node dissection. In both males and females, generous volumes of low concentration tumescent local anesthesia should bathe an area of at least 2 cm beyond all dissection planes. Our patient was a male, but the same technique can be applied to females



Video 1. Minimally painful injection of tumescent local anesthesia for mastectomy and lymph node dissection. [Accessible online at <https://journals.sagepub.com/doi/full/10.1177/22925503221120573>]



Video 2. Intraoperative dissection and patient feedback during the surgery. [Accessible online at <https://journals.sagepub.com/doi/full/10.1177/22925503221120573>]

We recommend 300–500 mL of tumescent solution which contains 50 mL of 1% lidocaine with 1:100 000 epinephrine and 5 mL of 8.4% bicarbonate diluted in saline. We used a total of 300 mL of this solution in this lean male to infiltrate all tissue dissection planes as shown in Figure 1. We started with a gauge 27 needle using a gentle pinch followed by longer larger needles which were advanced only in clearly tumesced, numb tissue to avoid any sting after the first needle poke. Infiltration of the entire tissue plane under the breast was done by gently lifting it off the anterior chest wall as shown in Video 1 [accessible online at <https://journals.sagepub.com/doi/full/10.1177/22925503221120573>]. The breast and axilla were tumesced with visible and palpable local anesthesia 2 cm beyond anywhere that dissection was going to occur.

We waited 30 min to give the epinephrine adequate time to work before starting the procedure. Bipolar electrocautery was used to eliminate monopolar cautery conduction pain. The procedure took 40 min with a blood loss of 50 mL. The patient experienced the surgery with minimal discomfort as shown in Video 2 [accessible online at <https://journals.sagepub.com/doi/full/10.1177/22925503221120573>].

The use of minimally painful injection of tumescent local anesthesia can be a good option to increase availability and safety for this life saving operation. This technique

may be applicable in other patients where similar factors and lack of resources limit the use of safe general anesthesia.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

ORCID iDs

Sameer M. Pandya  <https://orcid.org/0000-0002-8586-665X>
Donald Lalonde  <https://orcid.org/0000-0001-7073-2715>

References

- Joukhadar, N, & Lalonde, D. How to minimize the pain of local anesthetic injection for wide awake surgery. *Plast Reconstr Surg Glob Open*. 2021;9(8):e3730. doi: 10.1097/GOX.0000000000003730. PMID: 34367856; PMCID: PMC8337068.
- Lalonde, DH, Ahmad, A, & Phillips, A. Chapter 4 on using tumescent local anesthesia. In: DH Lalonde, ed. *Wide awake hand surgery and therapy tips*, 2nd ed. Thieme Publishers; 2021:33-4255.