

Abstract

Introduction: Fascial closure may pose challenges in AWR but is associated with decreased rates of hernia recurrence, surgical site infection and mesh infection. Preoperative Botulinum toxin A (BTA) injection causes temporary muscle paralysis and may be used as an adjunct in AWR. There are few published reports on this subject. We describe four unique, complex cases in which BTA can successfully be used to facilitate abdominal wall closure.

Methods: Four unique cases from the Carolinas Medical Center (CMC) in which preoperative image-guided BTA injections were administered to the lateral abdominal wall musculature were reviewed. Demographics, hernia characteristics, imaging, surgical technique, complications and outcomes were evaluated.

Results: For the four cases, the average BMI was $29.15 \pm 3.9 \text{ kg/m}^2$, age 58 ± 14.8 years, and they had 1.3 ± 0.4 previous hernia repairs. Three patients had large ventral hernias, and one had a flank hernia. One patient had a previous external oblique component separation. Average operative data included: time to surgery from BTA injection: 29.3 ± 2.7 days, operative time: $252.8 \pm 101.4 \text{ min}$, defect size: $397 \pm 279.3 \text{ cm}^2$, mesh size: $1104.8 \pm 365.2 \text{ cm}^2$. Mid weight polypropylene mesh was used in all cases and primary fascial closure was achieved in all patients. There were no postoperative complications. With an average follow up time of 18 ± 12.8 months, there are no recurrences.

Conclusion: BTA injection into the lateral abdominal wall musculature should be considered in certain challenging AWR cases in order to reap proximate the muscular fascia. Preoperative BTA injection appears to be a minimally invasive, safe, and effective technique in facilitating primary fascial closure in cases where component separation may not be adequate, possible, or previously failed.

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