

Resolution of rosacea-associated persistent facial edema with osteopathic manipulative treatment



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Key words: facial lymphedema; lymphatic drainage; lymphedema; Morbihan syndrome; OMT; osteopathic manipulative treatment; osteopathic medicine; rosacea; swelling.

INTRODUCTION

Persistent facial edema is an uncommon dermatologic condition that can become disfiguring and debilitating to patients, and the broad range of potential causes only complicates the workup and treatment.¹ A retrospective study analyzing the etiologies of orofacial swelling found the top 2 causes to be idiopathic orofacial granulomatosis and solid facial edema from rosacea or acne vulgaris.¹ Among dermatologists, rosacea represents an etiology that one should especially consider.

Rosacea is estimated to affect around 5% of the US population.² Its complex pathophysiology arises in genetically predisposed individuals who develop inflammation and vascular abnormalities, particularly after external stimuli triggering inappropriate immunologic responses and neurovascular dysregulation.³ Rosaceous facial edema most likely results from increased blood flow and impaired lymphatic vessels and drainage.³ Persistent “solid facial edema” (an umbrella term for chronic, recurrent head and neck lymphedema) can result from chronically impaired lymphovascular flow and classically presents with nonpitting, symmetrical swelling.⁴ “Morbihan disease” is included under this umbrella and presents with severe, indurated edema of the superior centropacial region.⁴ However, rosaceous facial edema presents on a clinical spectrum from severe (Morbihan disease) to mild with subtle erythema and edema. Though treatment with oral

Abbreviation used:

OMT: osteopathic manipulative treatment

tetracyclines or isotretinoin has shown some success in the literature,^{5,6} overall management of solid facial edema has displayed inconsistent results.⁴

Osteopathic manipulative treatment (OMT) represents an effective, sustainable, and relatively quicker management option without the risk of potential adverse effects of oral therapies. Hands-on OMT techniques can restore somatic dysfunctions (imbalances in musculoskeletal structures and their associated lymphatics, neurons, and vasculature) to relieve the swelling of solid facial edema.⁷ In this case report, we describe the expeditious and sustained resolution of a patient’s recalcitrant, rosacea-associated facial edema with a 10-minute sequence of OMT maneuvers.

CASE REPORT

A 72-year-old female with a past medical history of severe childhood asthma, atopic dermatitis, a hypothyroid goiter treated with radiation, and an undifferentiated connective tissue disease presented for follow-up of inadequately controlled inflammatory rosacea associated with recalcitrant facial edema. The symptoms of rosacea began in her mid-50s as photo-exacerbated redness and flushing. Within the last 4 years, she

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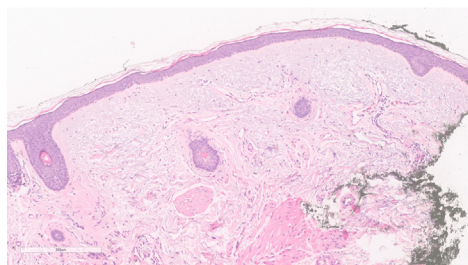


Fig 1. Histology of the left cheek punch biopsy. *Alcian blue* and colloidal stains were negative, and the biopsy showed relatively normal skin with incidental findings.

developed progressive, chronic facial swelling that was worse on the left side of the lower face and more noticeable upon waking up in the morning. Past treatments for rosacea were moderately effective, which included daily oral amoxicillin and topical sulfacetamide sodium 10%, ivermectin-metronidazole-azelaic acid, and aluminum acetate cream.

Due to recalcitrant symptoms, further workup included patch testing, which was positive for allergy to acrylates. Acrylates are found in dental resins and may have been used in recent dental repairs; however, she never experienced oral symptoms, and this did not fit with the overall time line. Additional notable history included a face-lift procedure in her late 60s. Punch biopsy of the left cheek with histopathological examination demonstrated relatively normal skin with nonspecific findings consistent with chronically sun exposed skin (Fig 1).

On physical examination, the patient exhibited nonpitting edema and slight erythema of the left inferior malar cheek. Palpation of the tissues revealed notable restrictions of the submandibular fascia and left cervical fascia overlying the thoracic inlet. She also demonstrated left-sided palpable, firm lymph nodes near the angle of the mandible and along the superficial cervical chains.

Her clinical history and presentation were most consistent with persistent facial lymphedema secondary to chronic inflammation from rosacea. Her history of a rhytidectomy, radiation treatment, and undifferentiated connective tissue disorder could be additional contributing factors predisposing her to lymphedema. Due to inadequate response to multiple therapies, we considered the possible complicating diagnosis of an underlying somatic dysfunction—impaired lymphatic drainage. The treatment for a somatic dysfunction is OMT.

The OMT consisted of a 10-minute, proximal-to-distal therapeutic approach to promote lymphatic drainage (Table I). The patient was positioned supine at a 30° angle with the physician standing at the head. Additional cervical chain drainage and massage was

Table I. Sequence of osteopathic manipulative treatment for facial lymphedema

OMT techniques ⁸	Effect on lymphatic drainage
1. Thoracic inlet release	Move the tissues surrounding the thoracic inlet in the direction of restriction. Hold until tissue relaxes/softens.
2. Cervical chain drainage	Slowly massage the lymphatics along the sternocleidomastoid muscle in posterior-to-anterior and cranial-to-caudal directions.
3. Suboccipital decompression and venous sinus release	Suboccipital decompression: Use the finger pads to loosen the tissues overlying the occipitoatlantal joint to release any joint and promote fluid drainage from the head. Venous sinus release: Use the finger pads to apply lateral traction in the areas of the sinus along the sagittal and metopic sutures to promote fluid drainage.
4. Submandibular release	Apply light, superior pressure of the finger pads below the angle of the mandible into the submandibular fascia until palpable softening of tissues is noted
5. Facial effleurage and trigeminal stimulation	Facial effleurage: Gentle and slow rhythmic stroking of the soft tissues overlying the frontal and maxillary sinuses, then the lymphatic chains from the forehead and temples toward the cheeks. Trigeminal stimulation: Apply a circular motion overlying major foramina of the face where branches of the trigeminal neurovascular bundles exit the cranium.

OMT, Osteopathic manipulative treatment.

performed during the last 3 steps to further encourage lymph drainage into the thorax. Fig 2 uses a model patient to demonstrate the positioning of the patient and the hand placements of the physician during each step of the OMT sequence.

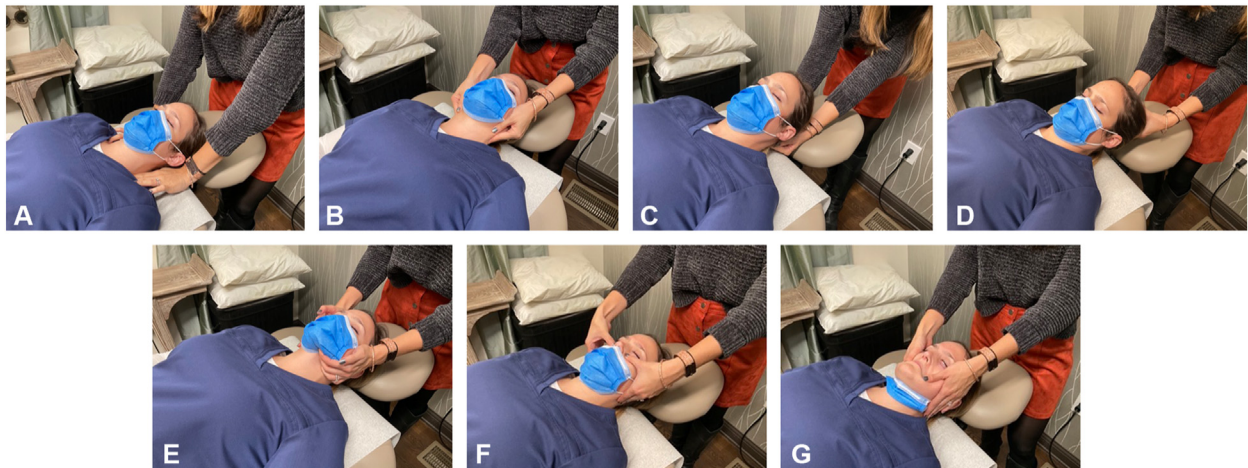


Fig 2. Setup and sequence of OMT. The 30° supine positioning allows access to the affected structures while gravity encourages movement of lymphatic fluid. Opening the somatic dysfunction of the thoracic inlet (A) in the beginning will permit further lymphatic flow to the thorax during the subsequent OMT maneuvers: (B) cervical chain drainage, (C) suboccipital decompression, (D) venous sinus release, (E) submandibular release, (F) trigeminal stimulation of the maxillary division, (G) facial effleurage. *OMT*, Osteopathic manipulative treatment.



Fig 3. Persistent facial edema. The left photo is pretreatment, and the right photo is 1 month posttreatment after weekly OMT sessions. This time period marked the maximum amount of improvement in lymphatic drainage. Significant improvement of facial edema was demonstrated by the increase in facial rhytids. Written consent was obtained by the patient. Photos were deidentified but not changed to distort results. The change in lighting is due to different light sources in the exam rooms and photos being taken with iPads that make auto adjustments. *OMT*, Osteopathic manipulative treatment.

After the first OMT session, the patient showed noticeably decreased swelling. Improvement continued over the next month with weekly OMT sessions. Fig 3 displays the significant decrease in facial swelling after 1 month. Physical examination also demonstrated loosening of the cervical tissues overlying the thoracic inlet, and the palpable lymph nodes were resolved. The patient decided to have monthly OMT sessions for maintenance therapy.

DISCUSSION

The inconsistent results of managing rosacea-associated, persistent facial edema with pharmacotherapy demonstrate the importance of investigating

additional treatment options, as well as consideration for concomitant diagnoses that may be reducing or complicating treatment response. A systematic review of general treatment success for solid persistent facial edema uncovered a 72% response rate, and 58% of these only had a partial response.⁵ These treatments were either oral antibiotics, oral corticosteroids, oral isotretinoin, or combinations of these 3, and the time to response usually took a few months. Our patient could not tolerate oral azithromycin, and the switch to oral amoxicillin only led to a modest decrease in swelling. This contrasts to the relatively quick resolution of swelling after a simple OMT sequence, indicating

that somatic dysfunction was limiting her treatment response.

Diagnosis and treatment of somatic dysfunction with OMT techniques improve lymphatic congestion, which is similar to the well-documented compressive techniques widely used by physicians and physical therapists. Although literature about such manual treatments for facial edema is scarce, one study did successfully treat a patient's recalcitrant, rosacea-associated Morbihan syndrome with decongestive therapy that included manual lymphatic drainage and facial compression.⁹ Our study similarly showed how evaluation for and treatment of somatic dysfunction utilizing simple OMT techniques can successfully augment treatment of rosacea-associated, idiopathic, and many other causes of facial lymphedema.

Conflicts of interest

None disclosed.

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