Osteopathic Manipulative Medicine for Inflammatory Skin Diseases

J. Hibler, DO,* Jessie Perkins, DO,** David Eland, DO, FAAO,*** Dawn Sammons, DO, FAAO****

*Program Director, Dermatology Residency Program, O’Bleness Memorial Hospital, Athens, OH
**Attending Physician, University Medical Associates, Athens, OH
***Traditional Osteopathic Intern, Largo Medical Center, Largo, FL
****Dermatology Resident, 2nd Year, O’Bleness Memorial Hospital, Athens, OH

Studying the musculoskeletal system

Abstract

Osteopathic manipulative medicine (OMM) is a defining feature of osteopathic physician training and can be used in practically all areas of medicine. While the use of OMM by osteopathic-trained physicians continues to decline, its use will be an important feature that distinguishes DOs from their allopathic counterparts as osteopathic and allopathic training programs come to be governed by a unified body. Even in dermatology, OMM can be a useful tool for numerous disorders. We present several different OMM techniques that can be used for inflammatory skin diseases.

Introduction

The planned emergence of the Unified Accreditation System in 2015, a merger between the American Osteopathic Association (AOA) and the Accreditation Council for Graduate Medical Education (ACGME), has created numerous obstacles for virtually the entire medical community. These recent organizational changes to graduate medical education in the United States will undoubtedly affect how osteopathic post-graduate medical training is conducted. Whether in primary care or in specialty medicine such as dermatology, preserving the identity of the osteopathic profession will likely be a challenge as these programs merge. Osteopathic dermatologists are in a special position to promote osteopathic manipulative medicine (OMM) because numerous dermatologic disease processes can be treated with manual therapies. This review focuses on inflammatory skin diseases that can be treated with OMM. Included here is also a brief review of the basic techniques used in OMM.

Background

Also known as osteopathic manipulative treatment (OMT), OMM is based on an understanding of the musculoskeletal system’s role in local and systemic fluid management and tissue mobility, as well as its influence, via the nervous system, on pain, proprioception and autonomic elements. The core techniques of OMM utilize these relationships between the musculoskeletal system and other body systems. The use of OMM, regardless of specialty, has been declining for the past several decades. In dermatology, it is hardly used at all. One survey found that half of all responding osteopathic physicians used OMT on less than 5% of their patients.1 Spaeth et al., focusing on osteopathic physicians in Ohio, found a negative correlation between osteopathic physicians’ OMM use and their level of post-graduate training.2 In another survey-based study, dermatologists reported zero use of OMM, citing a variety of reasons for not incorporating OMM into their daily practice (Table 1).3 It was found that specialists were most likely to avoid performing OMM due to barriers in use, practice protocols, attitudes toward OMM, and deficiencies in training.

Table 1. Reasons for decreased use of OMM by osteopathic physicians and specialists.1

<table>
<thead>
<tr>
<th>Barriers to OMM Use</th>
<th>Example(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice protocols</td>
<td>Exam-room size constraints, lack of administration support</td>
</tr>
<tr>
<td>Lack of emphasis in post-graduate training</td>
<td>Use of video/online tutorials instead of hands-on training</td>
</tr>
<tr>
<td>Time constraints</td>
<td>Some OMM techniques may take 30 minutes or more</td>
</tr>
<tr>
<td>Procedure-based specialties</td>
<td>Mohs, dermatopathology</td>
</tr>
<tr>
<td>Decreased practical exposure</td>
<td>Lack of use reduces comfort with techniques</td>
</tr>
<tr>
<td>Attitudes toward OMT</td>
<td>Belief that technique may not be useful</td>
</tr>
</tbody>
</table>

With the Unified Accreditation System, the instruction in and use of OMM in specialty medicine is in danger of even further decline. However, all osteopathic dermatologists do have the training and potential to perform most of these techniques, especially for reduction of tissue congestion and inflammation due to inflammatory skin diseases.

Discussion

The skin is the primary interface between the environment and the body, making it the initial defense against insults like radiation, heat, microbial invasion and trauma. When these insults occur, cutaneous inflammation arises, a result of an innate and adaptive immune system.5 Table 2 summarizes a variety of cutaneous inflammatory processes by the primary cause of inflammation.

One of the four primary principles of osteopathy states that the body has a propensity for self-healing and is capable of homeostasis and health maintenance.6 While medications such as antibiotics for bacterial infection and steroid-sparing immune-modulating medications for psoriasis remain the mainstay of treatment, manipulative medicine offers a supplementary approach to treatment.7 For example, rib raising is a technique used to normalize or reduce autonomic output to blood and lymphatic vessels. Normalization of this output can enhance blood and lymphatic flow to areas of trauma, infection or stress, supporting the healing process. It may also help with delivery of medication to these areas where tissue congestion is often found.
Osteopathic manipulative medicine has two main branches of techniques: direct and indirect. Direct treatments engage a restrictive barrier, and a final activating force is applied to correct the somatic dysfunction. Types of direct treatments include muscle energy, HVLA, rib raising and myofascial release. Indirect methods disengage the restrictive barrier, placing the dysfunctional body part in a state of ease in all directions until tissue tension is equal, thus potentially taking the tension off the lymphatic vessels in the area of treatment. Indirect treatments also include counterstrain.

Myofascial release can be accomplished via indirect treatment. Indirect methods disengage the restrictive barrier, placing the dysfunctional body part in a state of ease in all directions until tissue tension is equal, thus potentially taking the tension off the lymphatic vessels in the area of treatment. Indirect treatments also include counterstrain. Myofascial release of the diaphragm allows the diaphragm to move more efficiently, maximizing its potential as a lymphatic pump through improved intrathoracic pressure changes. The thoracic inlet is considered the endpoint of lymph flow as it reaches the venous system; the lymphatic system is a low-pressure system in which flow can be interrupted or impeded by changes in fascial tension. Congestion in this area will cause end resistance to lymphatic flow even when all other areas of lymph flow are adequate. Myofascial release is often considered the primary step in correcting lymphatic drainage and should be done in conjunction with other lymphatic treatments.

Recently, lymphatic-pump techniques have been shown to enhance the lymphatic and immune systems through increase of lymph flow and re-

### Table 3: OMT techniques and their potential benefits in inflammatory skin disease

<table>
<thead>
<tr>
<th>Treatment Type</th>
<th>Mechanism of Action</th>
<th>Therapeutic Benefits</th>
<th>Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Myofascial Release</strong></td>
<td>Direct or indirect; tissue is guided to a point of maximal restriction with constant force until release is achieved, or is guided along the path of least resistance until release is achieved</td>
<td>Promotion of balanced, homeostatic equilibrium and decreased resistance</td>
<td>Open wounds, recent surgery, deep venous thrombosis, neoplasms or internal injury</td>
</tr>
<tr>
<td><strong>Lymphatic Techniques</strong></td>
<td>Group of techniques employed to encourage movement of lymphatic fluid</td>
<td>Decreased resistance to lymphatic and venous flow; mobilization of local congestion, encouraging re-entry into circulation</td>
<td>Relative: cancer, Absolute: coagulopathy (e.g., deep venous thrombosis), chronic infections or infections with risk of reactivation (e.g., tuberculosis)</td>
</tr>
<tr>
<td><strong>Counterstrain</strong></td>
<td>Indirect; patient is placed in a point of ease that lessens the identified tender point by greater than 70% and is held in that position for 90-120 seconds</td>
<td>Relief of identified tender point, encouraging patient comfort</td>
<td>Ligamentous or tendinous tears, fracture</td>
</tr>
<tr>
<td><strong>Rib Raising</strong></td>
<td>Direct technique; physician applies slow, methodical pressure anteriorly and laterally on the rib angles while encouraging caudal motion</td>
<td>Prolonged reduction in sympathetic tone after initial SNS stimulation, encouraging increased blood and lymphatic flow</td>
<td>Anuria, necrotizing fasciitis</td>
</tr>
<tr>
<td><strong>High Velocity-Low Amplitude</strong></td>
<td>Direct; a rapid force carries a joint through the restrictive barrier within the anatomic range of motion</td>
<td>Increased range of motion, decreased pain</td>
<td>Severe osteoporosis, metastatic or bone cancer, cervical rheumatoid arthritis, fracture, carotid or vertebrobasilar disease</td>
</tr>
<tr>
<td><strong>Muscle Energy</strong></td>
<td>Direct; patient is placed into the restrictive barrier; patient’s muscles are then actively used against a physician’s counterforce for 3-5 seconds</td>
<td>Increased range of motion</td>
<td>Recent surgery, poor vitality of patient, unstable joints</td>
</tr>
</tbody>
</table>
distribution of immune mediators, respectively, further aiding in the body’s ability to heal. The lymphatic pump has been shown to significantly increase total leukocyte count, interleukin-8, keratinocyte-derived chemoattrant and other immune factors in lymphatic flow following treatment.¹¹ Several of these factors have been found to be involved in the pathophysiology of inflammatory skin disease, including IL-8 and keratinocyte-derived chemoattrant.¹²,¹³ Extravasation of these products of inflammation into lymph flow by lymphatic pumps can help promote the immune process involved in inflammatory skin disease.

Table 3 summarizes manual medicine techniques and their advantages in treatment of inflammatory skin conditions.

**Conclusion**

OMM remains a potential adjunct in treatment of disease, internal and cutaneous. At a time of merging osteopathic and allopathic paradigms, manipulative treatment becomes a key to maintaining osteopathic identity and promoting osteopathic principles. Continued emphasis on osteopathic principles in diagnosis and renewed focus on manipulation in post-graduate training may alleviate the decline of manual medicine in osteopathy as well as promote the uniqueness of the profession. Osteopathic manipulation has been shown to aid in normalization of autonomic function and enhance the immune process, thereby promoting the health of the individual. By employing methods of manual medicine, both direct and indirect, osteopathic physicians may enhance the treatment and comfort of the patient as a whole. With few exceptions, employing OMM in the treatment of inflammatory skin conditions can assist in resolving a pathologic state, as manual treatments have been shown to alter the flow of lymph and inflammatory mediators that may be involved in inflammatory skin disease.

Although the dermatology office is a fast-paced environment, we hope to promote the use of OMM, either in-office or by referral to a manipulative-medicine specialist, to encourage the health of patients as well as bolster that which is unique to osteopathic medicine. Continued research into the efficacy of manipulative medicine in dermatologic disease remains necessary as we seek new and innovative treatments for common dermatologic conditions.

**References**


**Correspondence:** J. Hibler, DO; jphibler@yahoo.com