Osteopathic Medicine in the era of chronic diseases: Re-examining the Therapeutic Mechanisms Behind OMT; a narrative review

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Abstract

Introduction: Osteopathic medicine has a distinct philosophy that is summarized by four tenets that recognize the body as a unit of self-regulation, self-healing, and health maintenance, and suggest that normal structure and alignment is important in optimizing the body’s natural homeostatic abilities. These tenets shape our current understanding of the body’s complex web of internal communication and the treatment of osteopathic manipulative therapy (OMT). This review aims to discuss the neurophysiologic and connective tissue effects within the body and different neural and neurochemical systems that mediate OMT to improve health and maintain homeostasis.

Methods: A comprehensive review of the literature was completed. This included studies found in MEDLINE, CINAHL, and PubMed with full text, EMBASE, Cochrane, and PsycINFO. A total number of 554 records were identified by using this screening method. A total of 42 records fit the inclusion criteria after accounting for 46 duplicates and 556 that were excluded based on the criteria that studies needed to have an effect that was physiologic and could be objectively measured.

Results: At first glance, there seems to be many different perspectives on the therapeutic mechanisms underlying the application of OMT. This review further reveals a repeat of factors that all contribute to the body’s responses to OMT. The application of OMT by physicians utilizing a technique that depicts qualities of tissue function and body movement that are deviations from normal and deemed to be disruptive to the body’s Healthcare professionals have reported an increase in awareness of this relationship in an effort to further understand the mechanisms that allow OMT to improve health and maintain homeostasis. These include the improvement of normal movement, tenderness, gross asymmetries, and altered tissue texture. Although pain is not specifically a focus of this review, here it is also suggested that the relationship between normal structure and function and the pain symptom are well documented in the evaluation of the body. Almost every study on OMT and somatic dysfunction considered pain as a central factor in the clinical manipulative techniques utilized in OMT. The mechanisms that become evident from these studies include the correlation between somatic dysfunction and inflammatory cytokines IL-6, IL-10, and TNF-α. These biochemicals were generally increased in the presence of pain and ischemia. In addition, this review has identified findings that suggest that inflammation is associated with changes in the somatic dysfunction and inflammatory cytokines. These biochemicals were increased in the presence of pain and somatic dysfunction, and improvements toward baseline were observed following OMT. Multiple studies have highlighted the importance of inflammatory processes mediated through the musculoskeletal system and have suggested that these biochemicals are related to the potential of osteopathy and how this principle can transform the effect of inflammatory processes within the body. The relationship between cellular functions and the body’s natural ability for self-regulation of somatic dysfunction and movement is an important aspect of the person that contributes to their potential response to OMT. Ignoring this mechanism brings into question the therapeutic value of manual therapy. Finally, this review also identifies the evidence of a mechanism that further demonstrates how the body’s internal communications into a unified and coherent response of cellular and metabolic activity that are supporting the body’s health.

Conclusions: More than a century after the beginning of Osteopathic medicine, we continue to discern the intricacies of the body’s natural ability for self-regulation of somatic dysfunction and movement. The relationship between cellular functions and the body’s natural ability for self-regulation of somatic dysfunction and movement is an important aspect of the person that contributes to their potential response to OMT. Ignoring this mechanism brings into question the therapeutic value of manual therapy. Finally, this review also identifies the evidence of a mechanism that further demonstrates how the body’s internal communications into a unified and coherent response of cellular and metabolic activity that are supporting the body’s health.

Introduction

Osteopathic medicine has a distinct philosophy that is summarized by four tenets.1 These tenets recognize the body’s natural ability for self-healing and self-regulation. The osteopathic tenets also recognize a unification in the function of the body system and suggest that normal structure and alignment is crucial in supporting the body’s natural homeostatic abilities. The interrelationship of structure and function is largely mediated by the nervous system, and that is the dynamic that we would like to better understand.

The osteopathic tenets provide a baseline philosophy to establish the essential core elements – body unity, together, with self-healing/self-regulation, and the structure/function relationship – to shape our current understanding of a therapeutic mechanism behind OMT.

Methods

Data Sources: Clinical keywords “osteopathic” AND “therapeutic mechanism,” as well as “OMT” AND “therapeutic mechanism,” and “osteopathic manipulative treatment” AND “OMT therapeutic mechanism” were searched in CINAHL, with full text, EMBASE, Cochrane, and PubMed. Study Selection: A total number of 554 records were identified by using this screening method. A total of 42 records fit the inclusion criteria after accounting for 46 duplicates and the 556 that were excluded based on the criteria described below. Results: A total number of 554 records were identified by using this screening method. A total of 42 records fit the inclusion criteria after accounting for 46 duplicates and the 556 that were excluded based on the criteria described below. Conclusion: More than a century after the beginning of Osteopathic medicine, we continue to discern the intricacies of the body’s natural ability for self-regulation of somatic dysfunction and movement. The relationship between cellular functions and the body’s natural ability for self-regulation of somatic dysfunction and movement is an important aspect of the person that contributes to their potential response to OMT. Ignoring this mechanism brings into question the therapeutic value of manual therapy. Finally, this review also identifies the evidence of a mechanism that further demonstrates how the body’s internal communications into a unified and coherent response of cellular and metabolic activity that are supporting the body’s health.

References