

Immunity- Osteopathic Reviews and Theory

The Potential of Osteopathic Manipulative Treatment in Antimicrobial Stewardship: A Narrative Review

Noll DR

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The contemporary management of infectious diseases is built around antimicrobial therapy. However, the development of antimicrobial resistance threatens to create a post-antibiotic era. Antimicrobial stewardship attempts to reduce the development of antimicrobial resistance by improving their appropriate use. Osteopathic manipulative treatment as an adjunctive treatment has the potential for enhancing antimicrobial stewardship by enhancing the human immune system, shortening the duration of antimicrobial therapy, reducing complications, and improving treatment outcomes. The present article reviews the evidence published in the literature since this unique treatment approach was first developed more than 100 years ago. The evidence suggests that adjunctive osteopathic manipulative treatment has great potential for enhancing antimicrobial stewardship and should be further investigated.

Osteopathic lymphatic pump techniques to enhance immunity and treat pneumonia

Hodge LM

International Journal of Osteopathic Medicine

2013

Pneumonia is a common cause of morbidity and mortality worldwide. While antibiotics are generally effective for the treatment of infection, the emergence of resistant strains of bacteria threatens their success. The osteopathic medical profession has designed a set of manipulative techniques called lymphatic pump techniques (LPT), to enhance the flow of lymph through the lymphatic system. Clinically, LPT is used to treat infection and oedema and might be an effective adjuvant therapy in patients with pneumonia. The immune system uses the lymphatic and blood systems to survey to rid the body of pathogens; however, only recently have the effects of LPT on the lymphatic and immune systems been investigated. This short review highlights clinical and basic science research studies that support the use of LPT to enhance the lymphatic and immune systems and treat pneumonia, and discusses the potential mechanisms by which LPT benefits patients with pneumonia.

The 2012-2013 Influenza Epidemic and the Role of Osteopathic Manipulative Medicine

Mueller DM

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2013

The 2012-2013 influenza epidemic arrived approximately 4 weeks early, augmented by an unusual variant type-A ("swine flu") strain that caused greater-than-normal illness and a lack of efficacy in vaccination against it. Tens of thousands of people die of influenza or related complications during a non-epidemic influenza season. Osteopathic medicine can substantially help to address the complications that result from influenza. For example, during the deadly 1918-1919 Spanish influenza pandemic, osteopaths reduced patient mortality and morbidity by using lymphatic treatment techniques. Use of osteopathic manipulative treatment with vaccination, antiviral therapy, and chemoprophylaxis has potential to save lives and reduce complications. The present article describes the

role of osteopathic manipulative treatment in the management of influenza and highlights current issues surrounding the use of antiviral therapy.

Contribution of osteopathic medicine to care of patients with chronic wounds

Anglund DC, Channell MK

Journal of the American Osteopathic Association

2011

Since its inception, osteopathic medicine has been concerned with the lymphatic system. Research has demonstrated the effectiveness of lymphatic osteopathic manipulative treatment (OMT) techniques in affecting fluid management and immune function. Many of the functions provided by the lymphatic system and augmented by OMT are necessary for proper wound healing. The authors highlight the unique contribution of the lymphatics to wound healing, as well as the unique contribution of OMT to lymphatic-directed treatment of patients with chronic wounds. The authors propose that this information be used as a basis for research into the effects of OMT on chronic wound healing in patients.

Lymphatic pump treatment enhances the lymphatic and immune systems

Hodge LM, Downey HF

Experimental Biology and Medicine

2011

The osteopathic medical profession has long advocated the use of osteopathic lymphatic pump treatments (LPT) to improve lymphatic circulation, reduce edema and combat infectious disease. However, until recently, there was no scientific evidence that LPT enhances function of the lymphatic and immune systems. This review discusses the physiological functions of the lymphatic system, the ability of LPT to increase lymph flow under normal and experimental conditions, the clinical benefits of LPT, current research models for the study of LPT and the potential mechanisms by which LPT enhances lymphatic and immune function.

Revisiting Castlio and Ferris-Swift's Experiments on Direct Splenic Stimulation in Patients with Acute Infectious Disease

Noll DR, Johnson JC, Brooks JE

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2008

Background: In 1934, Yale Castlio, DO, and Louise Ferris-Swift, DO, published the results of a within-subjects experiment on direct splenic stimulation in patients with acute infectious disease (N=100). Their results, which used rudimentary statistical analyses, are still cited as evidence that osteopathic manipulative treatment augments immunity.

Objective: To retest the validity of Castlio and Ferris-Swift's conclusions by applying contemporary statistical methods to their raw data.

Methods: Castlio and Ferris-Swift's original 1934 data were not normally distributed and sample sizes were small. Therefore, the authors of the present study reanalyzed the data using several nonparametric statistical methods: Wilcoxon signed rank, Friedman, and Kruskal-Wallis tests.

Results: Contemporary statistical analysis confirms a modest posttreatment increase in leukocytes, a decrease in erythrocytes, a decrease in the Arneth index, and an increase in reticulocytes after the application of direct splenic stimulation for patients diagnosed with acute infectious disease.

Contemporary reanalysis also confirms statistically significant posttreatment changes in the immune function tests. Findings were less conclusive for the leukocyte differential cell counts and for the effect of varying the number of splenic compressions.

Conclusions: Analysis of Castlio and Ferris-Swift's 1934 data using contemporary statistical methods supports many of their original conclusions. However, faults in study design common to that era limit the article's applicability for modern researchers. Additional research on splenic pump techniques using contemporary study designs and statistical methods is recommended.

Avian influenza: an osteopathic component to treatment

Hruby RJ, Hoffman KN

Osteopathic Medicine and Primary Care

2007

Avian influenza is an infection caused by the H5N1 virus. The infection is highly contagious among birds, and only a few known cases of human avian influenza have been documented. However, healthcare experts around the world are concerned that mutation or genetic exchange with more commonly transmitted human influenza viruses could result in a pandemic of avian influenza. Their concern remains in spite of the fact that the first United States vaccine against the H5N1 virus was recently approved. Under these circumstances the fear is that a pandemic of avian influenza could result in the kind of mortality that was seen with the Spanish influenza pandemic of 1918–1919, where the number of deaths was estimated to be as high as 40 million people. Retrospective data gathered by the American Osteopathic Association shortly after the 1918–1919 influenza pandemic have suggested that osteopathic physicians (DOs), using their distinctive osteopathic manipulative treatment (OMT) methods, observed significantly lower morbidity and mortality among their patients as compared to those treated by allopathic physicians (MDs) with standard medical care available at the time. In light of the limited prevention and treatment options available, it seems logical that a preparedness plan for the treatment of avian influenza should include these OMT procedures, provided by DOs and other healthcare workers capable of being trained to perform these therapeutic interventions. The purpose of this paper is to discuss the characteristics of avian influenza, describe the success of DOs during the 1918–1919 Spanish influenza pandemic, describe the evidence base for the inclusion of OMT as part of the preparedness plan for the treatment of avian influenza, and describe some of the specific OMT procedures that could be utilized as part of the treatment protocol for avian influenza patients.