

Parameters of asthma and manipulation study questioned

To the Editor:

I read the article by Susan E. Bockenhauer, DO, et al, "Quantifiable effects of osteopathic manipulative techniques on patients with chronic asthma" (*J Am Osteopath Assoc*. 2002;102:371-375), with interest and concern. Although I commend the authors for attempting to investigate a potential link between manipulation and asthma, I must say that the article and the study itself are severely flawed.

Let me start with the study's selection process. Only ten patients participated in the study—including smokers and non-smokers—an extremely small population sample. Further, all of the participants were female. There was wide variability in the severity of asthma among the patients, yet no mention of pulmonary function testing and the criteria used to determine how these patients were selected. Measurements of the thoracic wall were done with a tape measure, which is difficult to duplicate and fraught with potential error. No significant difference in peak flow rates was apparent; in fact, peak flow rates after the manipulative procedure were worse. In addition, the concept that thoracic excursion has anything to do with the severity of (or relief from) asthma is a concept that is not based in science. The authors admit that the slight improvement in symptoms after manipulative procedures was not statistically significant. Finally, the standard measure of pulmonary function in asthma is obtained via spirometry. Unfortunately, spirometry was not used during this study.

To produce a credible study that investigates a potential link between asthma and manipulation, the manipulative techniques used need to be standardized, the definition of the asthmatic patient must be stated, a sample size that provides sufficient representation must be used, and better methods of providing placebo therapy need to be devised. In addition, spirometric testing needs to be included with a measure of response to bronchodilator therapy.

Until such studies can show any benefit, we should not delude ourselves into thinking that manipulative therapy has a beneficial role in asthma.

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Response

We appreciate Dr Cali's concerns about our study. Although many of his concerns are premature, we thank him for providing us the opportunity to address them as well as to discuss the motivation for and the purpose of our research.

Dr Cali's criticisms might be appropriate had our article reported the results of a large, population-based study concluding that osteopathic manipulative treatment (OMT) has clearly defined benefits for all asthmatic patients. However, our research was identified as a pilot study undertaken with minimal resources to explore problems inherent in technique studies, while investigating the benefits of OMT techniques in an asthmatic population. Ideally, we would have had a larger sample including equal numbers of nonsmoking men and women, but recruitment was difficult in a busy clinic with a poorly educated patient population and volunteer research assistants. Nonetheless, it is encouraging that given the limitations of so small a sample, some of our measurements achieved statistical significance. We believe that our results justify further OMT research along these lines.

We agree with Dr Cali that "the definition of the asthmatic patient must be stated" and that "the manipulative techniques used need to be standardized." We defined the patients in our sample by providing inclusion and exclusion criteria and reported full descriptions and sources of the techniques that were studied. Dr Cali suggests that further OMT technique studies should improve on this study's method of providing placebo therapy. We are open to all suggestions.

Dr Cali criticizes our use of a tape measure, rather than spirometric testing. In researching OMT, however, measurements

used must be meaningful to underlying theory. In this instance, that means measuring changes in bodily structural relationships and physiology, with a tape measure being the best instrument to quantify both. One purpose of this study was to explore the use of a tape measure in measuring thoracic excursion.

The technique of consistently using a single-blinded examiner in this study minimized bias, with errors in experimental and control groups likely to cancel each other out. (In retrospect, we see that if this method of measurement is to be used in future research, examiner bias should be quantified.)

Naturally, we would have liked to include pulmonary function testing as one of our measurements, but it was financially and logistically unfeasible. We advocate the use of this gold standard in future research for which our study may have helped pave the way.

In the way it develops, OMT research need not and should not resemble research that investigates pharmaceutical modes of therapy. We hope that Dr Cali's letter will serve as a call to develop measurements that are representative of the structural changes brought about by OMT. In this way, structural changes can be compared, correlated, and contrasted with functional measurements, such as those generated by spirometry.

Clinical trials that investigate OMT can only be done after many foundational studies like this one have established the nature of benefit and size of effects following the intervention of techniques. These pilot studies in turn must emerge from the conviction of practitioners who directly perceive the benefits OMT brings to patients.

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Role of retrievable vena cava filter following placement for thromboembolic prophylaxis in a high-risk trauma patient questioned

To the Editor:

The ability to insert and retrieve inferior vena cava filters (IVCFs) may have implications in the prophylaxis of patients with multiple injuries who are at high risk for venous thromboembolic complications yet who have contraindications to low-dose, molecular-weight heparin or are unable to have sequential compression devices applied.

A 67-year-old man sustained a left acetabular fracture and a left distal radius fracture. On hospital day 3, the patient had shortness of breath and wheezing, prompting evaluation that included spiral computed tomography of the chest.

A thromboembolic clot was identified in the lingular segment of his left lung. Therapeutic anticoagulation was contraindicated due to drifting hemoglobin levels in addition to planned open reduction and internal fixation of the acetabular fracture. An IVCF (Günther Tulip, Cook Inc, Bloomington, Ind) was inserted.

Five days later, the man underwent surgical repair of his fractures. On the fifth postoperative day, he began therapeutic low-molecular-weight heparin (enoxaparin) after stabilization of his hemoglobin levels for 72 hours. On the twelfth postoperative day, the patient underwent endovascular removal of the filter. Before removal, a lower extremity duplex and a preextraction cavagram were done to identify residual clot in the lower extremities or inferior vena cava, both results of which were negative. The patient was discharged on therapeutic warfarin.

The patient underwent an IVCF procedure for a classic indication (ie, pulmonary embolism with contraindication to therapeutic anticoagulation). The filter was successfully removed after this contraindication had resolved.

Despite data showing "prophylactic" IVCFs to be effective in decreasing the incidence of fatal and nonfatal pulmonary emboli in high-risk trauma patients, two concerns remain unresolved: (1) their use in this population remains controversial due

to potential long-term complications, such as caval thrombosis and chronic venous stasis, and (2) the aforementioned concern is more pronounced in young, injured patients, whose risk of thromboembolic complications may only last several weeks, yet in whom a permanent IVCF will be present for decades. The ability to retrieve an IVCF may obviate these complications.

In a sense, all IVCFs are prophylactic, as they do not treat an existing pulmonary embolism but prevent further emboli. Further study is needed to determine a role for retrievable IVCFs in high-risk injured patients.

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References

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2. Langan EM III, Miller RS, Casey WJ III, Carsten CG III, Graham RM, Taylor SM. Prophylactic inferior vena cava filters in trauma patients at high risk: follow-up examination and risk/benefit assessment. *J Vasc Surg*. 1999;30:484-488.

Poems

Second Self

He sits atop his tractor
 A white haired god in his paradise
 Inspecting the incision
 He made to carry spring's torrents.
 The horses and the land envelop him
 A comforting blanket of sweat, sore
 muscles
 And time well spent
 In spite of the spasms that come like
 echoes
 Slashing across his back
 Taking his breath, pushing him away
 From the surgery table.
 With the first assault he leans forward,
 Gloved hands braced while he

Summons the horses and the growl of the tractor.

They send the pain flying out away screaming.

There is peace among the dogwoods
 That Cincinnati can't understand.

His second self lives here now

Waiting for the surgeon to

Grow tired and come join him.

He turns the steel horse around and heads home.

The ditch is a wound he can leave open;

The earth will heal it by secondary

intention in time.

Fascia

Swathed in gossamer bonds
 We cannot stray far inside our skin.
 Ever so gently we are reminded
 Where we need to be.
 Beneath our rough exteriors
 We are soft and smooth,
 Enveloped and protected
 Continuously connected.
 We travel all day
 Muscle over bone
 Viscera over viscera
 No sound betrays us.
 No clacking or clanging
 When positions are changing
 Just slipping and sliding
 Effortlessly gliding
 Within our silken wrap
 Whoever named this gentle embrace
 Probably rolled it around
 On his tongue a few times
 And said, "Ah yes, this word will do.
 Cartilage and connective tissue
 Are words too hard
 For this perfect creation
 But fascia sounds
 The way it is."

—Rita Roberts, MSIV
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