

Buffaloed: The anti-CCSVI Bias of the University of Buffalo Researchers and their Unsupported Interpretations

Ashton Embry, April 19th, 2011

Introduction

Last week researchers from the University of Buffalo published the results of their 2009 research on the prevalence of CCSVI in various groups of people including 289 persons with MS, 21 persons who had experienced a clinically isolated syndrome (CIS) (often a precursor to MS), 163 healthy controls and 26 subjects who were suffering from other neurological diseases. The paper was made available online on the website of the medical journal Neurology (<http://www.neurology.org/content/early/2011/04/13/WNL.0b013e318212a901.abstract>) and the University also issued a press release (<http://www.buffalo.edu/news/12469>) summarizing the main points in the paper. These same results were made public 14 months ago in February, 2010.

In this essay I will demonstrate that in reporting and interpreting these results, the researchers have displayed a clear and strong anti-CCSVI bias. I find this very disturbing because in the past the researchers have portrayed themselves as a neutral group wanting to only determine the “truth”. Because of this neutrality claim, the charity I am associated with (Direct-MS) has provided funding for CCSVI research at the University of Buffalo over the last 16 months. We would not have done so if we had known the researchers had a such a significant anti-CCSVI bias because such a bias cannot help but negatively affect their research effort and their publications as well as the public’s perception of CCSVI.

Direct-MS is interested in funding only scientists who produce reliable results and who objectively interpret such results. Whether such results support or disprove CCSVI is not a concern. We want the real story not a desired one.

It is now painfully clear that the University of Buffalo CCSVI researchers are not capable of producing objective interpretations regarding CCSVI and MS and thus are not interested in the real story. The data they have produced are considered to be reliable but their interpretations of these data are so biased and unsupported that they are inconsequential and have to be ignored.

Anti-CCSVI Bias in Data Reporting

The first obvious anti-CCSVI bias in the paper relates to how the percentage of persons having CCSVI was calculated for each group. For a diagnosis of CCSVI, two of five, blood flow parameters must be detected by Doppler technology. Unfortunately the Doppler technician had a problem with determining parameter 2 in a number of patients and, in 30 of these patients, one other parameter was positive. This created a problem of how to classify such patients (called

borderlines) who tested positive for one of four parameters and may well have gotten a diagnosis of CCSVI if the last parameter could have been evaluated.

An anti-CCSVI bias would assign all borderlines to the negative CCSVI category despite the fact that the chance of all 30 borderline subjects being negative for parameter 2 is very remote. An unbiased approach would be either to exclude such borderline subjects from the statistics or to assume half of the borderlines were positive for parameter 2, and thus had CCSVI, and half were not.

The authors offer CCSVI percentages based on both a fair approach (borderlines excluded from the calculations) and an anti-CCSVI bias approach (assumed all borderlines were CCSVI negative). However, in their reporting of CCSVI prevalence throughout their Discussion section, they used only the anti-CCSVI biased numbers. This allowed them to unfairly downgrade CCSVI association percentages. For example, with an unbiased approach, 62% of those with MS have CCSVI whereas with the anti-CCSVI approach only 56% have CCSVI.

Overall, this is a minor point because the key ratio of persons with MS and CCSVI versus healthy controls with CCSVI is essentially unaffected and remains at ~2.5. However, by frequently quoting the biased and unrealistic, lower percentage for CCSVI prevalence in MS, the authors make it seem CCSVI is not as common in MS as it really is. This statistical trick provides the first indication that we are not dealing with objective researchers.

Anti-CCSVI Bias in Discussion of the Results

The largest and most blatant anti-CCSVI biases in the paper are found in the Discussion section. First of all, the authors completely downplay their key finding that CCSVI is far more common in MS patients (62%) than in the general population (26%). The one mention of this major result is at the start of the section where they say “Our findings are consistent with increased prevalence of CCSVI in MS” and then they downplay it even more by adding a “but” statement - “but substantially lower than the originally reported sensitivity/specificity rates in MS”. Given that the main question the research was designed to solve was whether or not CCSVI was significantly more prevalent in those with MS than the general population, such a lack of discussion and trumpeting of a very important, positive finding demonstrates the significant anti-CCSVI bias of the authors..

In the next paragraph of the Discussion, the authors report the percentages of CCSVI in the various groups using the biased percentages (“**only** 56.1%”) and then claim “These findings point against CCSVI as having a primary causative role in MS”. Such a claim is completely unsupportable. The fact that CCSVI has a much higher association in MS says it may have a causative role but not necessarily. However, association data for other categories cannot possibly be used to argue against (or for) causation.

For a factor to be considered a probable cause, one needs higher association (which the Buffalo data clearly and indisputably demonstrate), the presence of the factor before disease onset (no data presented in paper) and plausible biological mechanisms which link the factor to the disease process (no data presented in paper). The association data for the other groups have absolutely no bearing on whether CCSVI is a causal factor or not for MS. The fact that the authors try to spin the data and claim it argues against causation indicates an incredible anti-CCSVI bias on their part as well as a lack of understanding of how a causal relationship between MS and a given factor can be reasonably determined

In the third paragraph, the authors claim that their association data argue against the published claim that lesions which cause CCSVI are congenital truncular venous malformations. This is false logic given the only way one can determine the origin of the lesions is to image the lesions with selective venography and intravascular ultrasound (IVUS). The association data have absolutely nothing to say about the nature of the lesions which are causing CCSVI in the various groups. Notably, selective venography and IVUS have clearly shown that many lesions causing CCSVI are indeed congenital malformations and the authors are well aware of this fact.

Given the above, the authors have exhibited both fervent anti-CCSVI bias and a tendency to ignore established data which do not fit their anti-CCSVI views. I assume the authors included their baseless attack on the existence of congenital lesions in CCSVI because, the established existence of such lesions which are formed before the MS disease process begins, in combination with the high association of CCSVI with MS (confirmed by the authors), and the well accepted, plausible biological mechanisms which link CCSVI to the MS disease process, leave little doubt that CCSVI is indeed a causal factor in many people with MS. It is not hard to understand why anyone with an anti-CCSVI bias wants to try to discredit a key aspect (e.g. lesions are congenital) of the well supported interpretation that CCSVI is very likely a causal factor for MS in many cases.

In paragraph four of the Discussion, the authors try to claim, on the basis of their data, that CCSVI is “a consequence of rather than cause of MS”. They do this on the basis of the data which show CCSVI prevalence becomes higher in more progressive forms. On the basis of these data alone one could say either MS causes CCSVI or that the presence of CCSVI causes more severe MS. The clear anti-CCSVI bias of the authors is unmistakable given the fact they only mentioned the first possibility (argues against CCSVI) and not the second one (argues for CCSVI). Researchers with even a semblance of objectivity would have mentioned both obvious possibilities and perhaps indicated what observations might decide the question of which explanation is more likely.

Notably, available research on the nature of the some lesions involved in CCSVI demonstrates beyond a reasonable doubt that CCSVI is not caused by MS. Such

lesions include webs, septa, inverted valves, malformed valves and external pressure from a bone or artery. It is impossible that such lesion types are caused by the MS disease process and thus any claim that the MS disease process is causing CCSVI has absolutely no support or validity. The fact that the authors completely ignore this obvious fact, which they are well aware of, is of great concern and leaves no doubt as to their complete lack of objectivity.

Press Release

The title and content of the press release which accompanied the publication of the paper were incredibly biased. This is an even more serious problem than the pervasive anti-CCSVI biases in the scientific paper because most public reporting of the research relies solely on the information in the press release.

The title of the press release is “Higher CCSVI Prevalence Confirmed in MS, but Meaning of Findings Remains Unclear”. An unbiased and honest title would have been “Higher CCSVI Prevalence Confirmed in MS”. The solid and indisputable confirmation of significantly increased prevalence of CCSVI in persons with MS is scientifically very important and is the big story.

The best they could say about the significantly increased prevalence of CCSVI in persons with MS is “While this may suggest an association between the MS and CCSVI”. Such a complete downplaying of their most important and uncontested finding, and one which helps to establish CCSVI as a causal factor in MS, again indicates that the authors have a strong anti-CCSVI bias. An objective researcher would have said the results solidly confirm that CCSVI is associated with MS beyond a reasonable doubt and emphasized that this was by far the most important result of their research.

The authors also made sure they included in the press release the completely unsupported statements that “that chronic cerebral venous insufficiency may be the result of multiple sclerosis, not a cause” and that “These findings indicate that CCSVI does not have a primary role in causing MS”. It was these inflammatory and entirely false, anti-CCSVI statements that made headlines in papers and on TV news channels in North America and Europe, thus completing a smear job on the concept that CCSVI may well play a key role in MS.

Discussion

There can be little doubt that the CCSVI researchers at the University of Buffalo have a significant, anti-CCSVI bias and want to discredit the concept. The entire neurological community shares the same anti-CCSVI bias. The simplest explanation for such a bias is the fact that if CCSVI treatment replaces drug therapy for MS, the neurologists stand to lose huge sums of money. Notably, the neurologists involved in the University of Buffalo research reported very extensive financial ties to pharmaceutical companies in the disclosure portion of the published article. Thus it is quite understandable that neurologists, including those at the University of Buffalo, are doing what they can to discredit the

concept of CCSVI. Very few people would not fight against a concept that has the potential to greatly decrease their earning power.

So why would the University of Buffalo workers undertake such research in the first place. The most obvious and simplest answer to this question is that they were sure that the CCSVI concept had no merit and they wanted to be the researchers which proved there was no association of CCSVI with MS. There is nothing wrong with this motive and science progresses on the desire to falsify concepts. I would have liked to have been there when they realized their research effort clearly showed there was an undeniable association between MS and CCSVI. They must have been very surprised and dismayed that they did not achieve their goal of dispatching CCSVI to the garbage heap.

Notably, after the Buffalo researchers announced the positive results of their research in February, 2010, other research teams lead by neurologists immediately started to do research to prove CCSVI was not associated with MS. The University of Buffalo researchers had failed to get the job done so it was now up to others to save the neurological community from the potential devastation CCSVI might cause. Because of the urgency to discredit CCSVI as a factor in MS, these new studies were quick and dirty and a number of them were published in less than 6 months after the research was started, an unprecedented turnaround. This fact alone suggests a lack of scientific integrity of these studies which predictably found no association of CCSVI and MS. Few people outside of the neurological community have taken these studies seriously.

The University of Buffalo researchers had spent over a year and a great deal of money on their MS/CCSVI association study so they had to publish it. This put them in the dilemma of how to publish a study which was positive in terms of CCSVI and MS when their main goal was to falsify CCSVI. We now know how they solved that problem. In their formal publication and in the all-important press release which accompanied it, they greatly downplayed their main finding that CCSVI was indeed associated with MS. On top of this, they concocted completely unsupportable claims that their data suggested that CCSVI has no causal role in MS and CCSVI is likely an effect rather than a cause of MS.

The bottom line is that their data clearly show that CCSVI is indeed highly associated with MS and their data in no way indicate either that CCSVI is not a cause of MS or that it is an effect of MS. This is the real message their research has delivered.

Reconciling the Buffalo findings with CCSVI testing and treatment findings

About 20,000 persons with MS have been tested for the presence of venous blockages with selective venography and about 90% of them have been found to have significant blockages which required angioplasty to restore normal flow. Furthermore, MRV flow studies (very different from the MRV structural studies done at the University of Buffalo) of thousands of MS patients also indicate that about 90% have abnormal venous flow. Thus any question that CCSVI is not highly associated with MS has been put to rest.

An obvious question becomes why did the Buffalo researchers find only 62% of persons with MS have CCSVI whereas selective venography and MRV studies are finding venous blockages and flow problems in about 90% of persons with MS. I think the answer to this lies in the Buffalo data that are in the published paper. It was found that about 90% of persons with MS who were tested for all five parameters had at least one abnormal blood flow parameter. I suspect a single abnormal parameter as measured by Doppler may well indicate a significant blockage and associated flow problems which are imaged by MRV and selective venography.

The Future

It is now well established by large, well controlled association studies such as that of the University of Buffalo and by thousands of selective venographies and MRVs that CCSVI is highly associated with MS. We don't need any more small, poorly done, association studies using non-invasive techniques administered by inexperienced technicians and supervised by anti-CCSVI neurologists. However, we will continue to see such studies as the neurologists continue to try to discredit CCSVI. I suspect that the seven association studies currently being funded by the MS societies and supervised by neurologists will be negative in regards to CCSVI. There are 10 billion reasons why this will happen.

Of course, the research that needs urgently to be done is an objective and comprehensive clinical trial which tests the effectiveness of venous angioplasty for MS. The thousands of reliable and well documented (video) reports of significant symptom improvement following venous angioplasty suggest such a trial will yield a positive result. Thus such a trial presents a huge threat to future cash flows of neurologists so I expect it will be quite a fight to get one funded and completed in a rigorous and objective manner. One can imagine the monumental efforts that will be made by some anti-CCSVI factions to try to ensure that any CCSVI clinical trial that gets off the ground will have a negative result.