

## Late Whiplash Syndrome: a Disease of the Psyche?

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It is often said that the whiplash literature represents some of the most polluted of all medical writing -- rife with polemic and anecdote, baseless authoritarianism, and logically unscripted opinion. Factless editorials are frequently cited as scientific proof, while growing evidence of this epidemic plague of our motorized society is often buried quietly by those eager to portray whiplash as no more than a nuisance, not worthy of serious attention.

But facts are facts. Over three million people are injured in this country every year in low speed motor vehicle collisions; about 50% of them develop late whiplash syndrome (chronic whiplash); 300,000 become disabled. These figures come to us from, among other good sources, the U.S. government. Undaunted by this seemingly immuring weight of reality, the inveterate disbelievers continue to saturate the literature with theories of litigation neurosis and notions holding that for others -- those who can resist the temptation to defraud insurance companies of huge quantities of cash in the form of recompense for nonexistent pain and suffering -- the pain is essentially in the head. Or rather, in the mind.

The year 1997 saw the battle of "psyche vs. somatic" played out in earnest in the medical literature. Let me present several studies; you decide who wins the argument.

Mayou and Bryant<sup>1</sup> carefully followed a group of whiplash patients for one year. At the end of that period it was reported that 49% continued to report ongoing symptoms, although most were mild. None of the symptoms (at a three month followup or at one year) were related to any psychological or social variables, or to compensation.

Countervailing this longitudinal scientific study is a fanciful foray into the land of the disbelievers by Ferrari and Russel,<sup>2</sup> who assure us that one simply cannot be injured in such a way. They cite, in support of their opinions, a small handful of hopelessly flawed papers and editorials that I couldn't have better hand picked myself if hoping to win such a debate. Unfortunately, none of them stand up to scientific scrutiny. For example, the paper by my friend Murray Allen and others,<sup>3</sup> which argued that being jostled in a crowd or sneezing were in some measure comparable to the abrupt acceleration of a rear impact collision, simply cannot be seriously viewed as a valid application of physics, nor as scientifically credible extrapolations of our current knowledge of such phenomena.

The hopelessly flawed so-called Lithuanian study<sup>4</sup> was also offered as support that such injuries occur only in places where personal injury attorneys are prevalent. But it too has been largely discredited by us<sup>5</sup> and several others, including my colleague Bogdan Radanov who provided a bit of balance and sanity in his piece that followed immediately after the Ferrari and Russel article<sup>6</sup> and was aptly titled "Common whiplash -- research findings revisited."

In a prospective study of whiplash patients, Karlsborg et al.,<sup>7</sup> who evaluated patients with

psychometric tools, MRI, and motor evoked potentials, concluded that neither MRI nor MEP were assessments likely to be useful for routine evaluation of these patients, and that long-term pain and poor outcome were more related to the occurrence of stressful life events. At seven month followup, 71% of the patients continued to be symptomatic.

The potential problems in the interpretation of this study lie in the fact that no one has ever proposed that whiplash patients undergo "routine" assessment by MRI or MEP. Both of these modalities have their own indications and, assuming those indications are present, they are likely to be useful. However, in this small sample of cases, few patients had indications for either test, so it should come as no surprise that few abnormalities were discovered. Thus, the findings predictably correlated poorly with outcome.

On the other hand, stressful life events, such as marriage and the birth of a child, fared comparatively better. But this must be considered in light of the fact that most researchers (including Radanov et al.) have found that abnormal psychometric test results in persons with musculoskeletal injuries are not reliable or independent measures of the psyche. In fact, Radanov et al. found that the test results of such studies improved in parallel with the patients' somatic improvements.

My British colleagues Martin Gargan and Gordon Bannister, along with pain specialist Chris Main, looked at a similar sized group of whiplash patients.<sup>8</sup> Assessing patients with the General Health Questionnaire and physical examination methods, they also found that psychological test scores became abnormal only after the injury. At two year followup, 63.5% of their patients continued to be symptomatic. Using neck stiffness at three month followup as an outcome variable, they could predict clinical outcome with 76% accuracy; 74% using the psychological score. Using both scores, they could predict outcome with 82% accuracy.

In a paper by Borchgrevink et al.,<sup>9</sup> both sides of the "psyche vs. somatic" debate were reviewed. The authors used the Millon Clinical Multiaxial Inventory to assess the patients' psychological status. This was a larger study (n=99) that found that 28% of the patients were symptomatic at followup: the smaller proportion found to be still symptomatic as compared to the other outcome studies was due, in part, to the authors' choice to consider patients with only slight to minor symptoms as being recovered. However, they concluded: "Consistent with other prospective studies, these results do not support the hypothesis that prolonged disability after neck sprain is due to a premorbid personality style or psychiatric syndromes."

## Conclusions

We must discount the Ferrari and Russel paper as mere silliness. The authors made no attempt to seriously review the literature and provided what can only be charitably described as grossly unbalanced. Sadly, this type of material continues to muddy the waters of the medical literature and to be used by other authors (like Ferrari and Russel), who are either unable or unwilling to distinguish between theory and evidence, to argue the case against whiplash injury as constituting a real condition. (Meanwhile, I have written to Ferrari and Russel and asked them -- since they view these crashes as entirely harmless -- if they wouldn't mind participating in some crash testing we have planned here at the institute.)

It would appear that the balance of this year's work on the issue of "psyche vs. somatic" favors the somatic side of the coin. This, as mentioned earlier, is consistent with most of the credible work on the subject conducted in recent years by other authors.

## References

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