Whiplash in foreign lands: more 'new clothes' for the Emperor?

A recent article by Partheni et. al. (1), *A prospective cohort study of the outcome of acute whiplash injury in Greece*, would, at first glance, seem to convincingly demonstrate that whiplash victims in other cultures do not have prolonged symptoms following their injuries as they do in the United States and other countries. However, the conclusions that they proposed are not supported by the balance of the literature pertaining to the subject of whiplash outcomes, or by the evidence that they presented in the body of their article.

In this article, Partheni et. al. attempted to demonstrate that late whiplash syndrome is uncommon in Greece. They carried out a prospective, cohort study, on a total of 180 accident victims who were recruited from an emergency ward. A standard questionnaire asked about neck pain, headache, shoulder pain, limb numbness or pain, and dizziness. The accident victims were then followed for 6 months. Symptoms reported included neck pain, headache, shoulder pain, arm numbness or pain, and dizziness, but at 4 weeks more than 90% of the patients had recovered from these. The remainder of the subjects had only minor symptoms not requiring therapy. The authors indicated that these accident victims had returned to their pre-accident state of health, which included minor symptoms, and there were no cases of chronic disability. They concluded that in Greece, symptoms after an acute whiplash injury are self-limiting, brief and do not appear to evolve into the so-called late whiplash syndrome.

In criticism of this study, it is noted that the authors reported that during a period of 36 months, they identified 180 consecutive patients from an Emergency Room (ER), which serves a catchment area of one million persons. Patients with Cervical Acceleration/Deceleration (CAD) Grade 3 or 4 were excluded from the study. It appears to be quite odd that the authors would have identified only 180 such subjects from an ER during a period of three years. In the United States, in similar sized catchment areas, community hospital ERs typically treat an average of at least two or three motor vehicle collisions (MVCs) per day. This would work out conservatively to a little over 2,200 such cases in three years. It is surprising that they found only 180 Grade 1 or 2 cases during this long period, since they represent a large proportion of all MVC-related injuries, and suggests that either there was some systematic error in identification or recruitment of subjects, or that the population and its demographics as regards traffic hazards and driving practices is not comparable to that of a typical urban setting in the United States. At 180 per three years, it works out to about one such crash injury every six days.

Notwithstanding this question, the arbitrary exclusion of the more severe grades of CAD injuries (Grades 3 and 4) is rather dubious, and no explanation for this was offered. If one were wanting to present an outcome most favorably, one would selectively exclude the more severe forms of a disease. At best, it limits the authors' conclusions to Grade 1 and 2 CAD only. This same type of selection bias was used in the cohort study of the QTF-WAD (2) back in 1995. In that case, patients with only the 847.0 ICD-9-CM code were included. Exclusion criteria included...
patients with any additional (i.e., multiple) codes. Naturally, single-coded patients are more likely to have less severe injuries and are therefore likely to have a more favorable outcome.

More insight into the problem of recruiting convenience samples from hospital ER departments is illustrated in the study of Dolinis (3). He followed persons who had reported crashes in Australia through police files (reporting of crashes is a law and theoretically, few would be unaccounted for). Despite relatively poor follow-through, he noted that only three out of 254 persons studied had been seen at the ER. This suggests that most persons with whiplash injury do not present to the ER, probably for a variety of reasons which include a typical delayed onset of about 48-72 hours, and the fact that their symptoms are not usually severe. Thus, taking a convenience sample from an ER will most likely result in a non-representative sample, and will limit the study's external validity.

The authors make several ideological and editorial comments in this paper, pretending to sweep away the underlying glaring problem that their results are matched only by the Lithuanian studies (4,5), which are themselves irretrievably flawed. They note for example that, "The argument that the most likely explanation for chronic neck pain and disability after an accident is some form of chronic damage induced by acute whiplash injury falls flat on its face in the face of vast cultural differences in the epidemiology of this disorder." What they mean by this is that since other authors have reported long-term pain and they do not, the differences must be cultural. Yet they offer no evidence that any such differences exist, nor that such differences – if they do exist – have any impact on claiming behavior. The studies they cite here also come from England, Scandinavia, and Switzerland. Are there not cultural differences between these countries as well? In any case, cross cultural differences, real or not, do not in any way argue against real soft tissue injury during acute trauma. Nor can they be used as an explanation for ongoing complaints. Conveniently perhaps, the authors choose not to cite any of the many studies that conclude that real injuries do occur.

The authors also side with Ferrari and Russell (6) and their as yet unvalidated biopsychosocial model, and make numerous references to their editorial comments made elsewhere. Half of the papers cited were those of Ferrari and Russell, their associate Kwan, and the Lithuanian work. This type of selective literature reviewing does not serve to bring about the truth and advance the knowledge base on the subject, unfettered by contradictory literature. It merely allows the authors to support their own unsubstantiated opinions.

Hopefully, by becoming familiar with the literature of this ilk, we will be better prepared to offer an acceptable explication when confronted with attacks relating to the treatment and outcome of chronic whiplash patients.