

Whiplash and the Mandible Revisited

Acceleration-deceleration (AD) injury (the typical occurrence is in motor vehicle accidents) is believed to be one of the many types of trauma-producing temporomandibular (TM) disorders. Many reports supporting this perspective have appeared in the professional literature since the late 1970s. These authors have focused on the relationship between this special type of trauma and specific injuries to the TM joint. As always, there is disagreement among the experts as to the causal relationship between trauma of AD and injury to the TM joint. Recent reports have gone so far as to attempt to discredit the very basis for this mechanism of injury. What is real and what is myth, as far as we know, in mid-1992?

Acceleration-Deceleration and Injuries Are Real

Arguments defending this point of view rely heavily on well-developed, biomechanical and physiologic principles. The health care literature contains thousands, perhaps tens of thousands, of incontrovertible references establishing the casual relationship between AD trauma and the cervical, thoracic and lumbar spine. Insofar as the spine is concerned, there is very little disagreement as to the authenticity of this form of injury.

Slowly, an equivalent amount of literature is building in the area of TM disorders and AD trauma. These reports, published primarily by dentists, are using the same biomechanical and physiologic format and, naturally, they are reaching conclusions similarly developed for the spine.

However, upon closer inspection of the subject there appears to exist some important differences between TM disorder, AD injuries, and spinal AD injuries. For one, the temporomandibular joint and surrounding structures do not have as much mass as, say, the head as it sits atop the cervical spine. Hence, we expect to see different manifestations of the injury in the same patient. In the neck, we expect to see muscle injury that is more intense than in the jaws where the muscles are not only shorter but whose mass is much less. In the jaw, we expect to see more joint-related injury due to the fact that the temporomandibular joint requires a high degree of precision in its operations.

Granted, muscle-based complaints are an important part of the patient's problem when injury to the temporomandibular joint occurs. Is this a paradox? No, not at all. One simply has to recall that muscle-splinting activity is a physiologic response to an injured joint. While this issue may seem trivial, it is an important one to the clinician. Treatment that is focused on the muscles, in this case, is doomed to failure and promotes the weak notion that TMJ injuries are forever.

Acceleration-Deceleration and Injuries are Not Real

The professional literature espousing this view appear to focus on the decreased mass of the mandible and the commensurate, increased strength of the muscle of mastication. Somewhere in their arguments, the authors are suggesting that AD trauma to the temporomandibular apparatus is not as common or as easy to achieve as popularly believed. They go on to infer that the greed of the clinician, patient or lawyer is the basis for the popular belief, and if this factor were removed the real incidence of AD induced injuries to the temporomandibular would drop precipitously.

Granted, there is a grain of truth to this argument. However, this apparently baneful approach appears to be more of an attempt to cut health care costs than to contribute scientific knowledge. Actually, this is not quite correct. Our scientific knowledge grows, in part, because it has stood the test of controversy. In this light, someone has to take the unenviable task of taking the "backlash" position on the subject of "whiplash."

Conclusion

To say that AD injuries to the TM apparatus does not occur appears to fly in the face of current scientific knowledge and certainly goes against clinical experience. However, we, as clinicians, are charged with the difficult task of distinguishing between actual injury and new attention to an old problem. Keep in mind that at any given time, up to 80 percent of our patient population exhibits at least one characteristic of a TM disorder. Do not fall prey to clinical lassitude and make the assumption that every sign or symptom discovered after an AD injury is casually related. I can see general dentists faltering on this point because of their relative lack of training in the nuances of the musculoskeletal system, but I cannot see a chiropractor taking the bait.

Keep up the good work!

With each article I encourage you to write the questions you may have, commentaries on patient care subsequent to attending the TM seminars, or thoughts to share with your colleagues, to me:

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Editor's Note:

Dr. Curl will be teaching MPI's Temporomandibular ("TM") seminar on September 26-27, 1992, in Denver, Colorado. You may register for the seminar by dialing 1-800-359-2289.

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