Dynamic Chiropractic

MUSCULOSKELETAL PAIN

A Chiropractic Perspective on Neurological Influences of the Temporomandibular Joint

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One of my first observations in the treatment of temporomandibular (TMJ) conditions has been the variety of responses to standard orthopedic, neurological, physical, chiropractic, and kinesiological examining procedures. The TMJ patient may affect these tests by altering the position of the jaw.

For example, you can do a dermatome examination on a patient and record your findings with the patient keeping his head and jaw in the neutral position. Then have the patient move his jaw to the right, and on the same dermatome examination you may get a completely different response. This is now done with the jaw moved to the left, and the mouth open. Again perform the examination with the mouth open, in the neutral position, then do the examination with the mouth closed, or any combination of these positions which may be involved. This approach which I call stress testing or challenging, which is a variation of the standard testing procedure, can give different sets of responses from the initial test procedure.

An example of this would be to have the patient do a Romberg sign (significance -- the sign is present in cerebellar or labyrinthine disease). If a patient has a negative Romberg sign after doing the test, now try doing the test with the patient moving his jaw into different positions. If at this point there is a positive response or a semipositive response with jaw movement, the patient can be showing signs of a TMJ problem that is not just localized at the temporomandibular joint but is affecting the body systemically as well.

Another good test to do this way is the finger-to-finger and finger-to-nose tests (significance -- ability to accurately hit the mark with eyes open but not with eyes closed indicates posterior column disease or malfunction. Inability to hit the mark normally and in a coordinated manner, either with eyes open or closed, indicates cerebellar disease or dysfunction). Now if these tests are negative when first done (in the clear without moving the jaw), we now will try the same test with moving the jaw right, left, open, closed, biting down, or any other position that we might think to be positive at times and will bring out a positive and evaluate the response observed.

These three tests (Romberg sign, finger-to-nose, and finger-to-finger), can make up a quick screening procedure for checking for a TMJ problem. My experience in examining patients with suspected TMJ involvement has been that the more serious the TMJ problem, the more it might affect the body systemically. It may also affect other reflexes, signs, ranges of motion, gait, posture, the sensory system, proprioceptive system, muscle testing, cranial nerves, and tests. For example, I have had patients in which it has shown up when doing the following tests: heel-toe test, heel-walk test, accommodation reflex, Achilles' reflex, auditory reflex, Babinski sign, brachioradialis reflex, Bragard test, Dejerine's sign, Fajersztajn's test, heel-knee test, Jandrassik's maneuver for jaw reflex, jaw jerk sign, Lasegue's differential sign, Lindner's sign, past pointing test, plantar reflex, quadriceps reflex, Trendelenburg test, Weber test, Bechterew's sitting test, double leg raise, percussion test, Sicard's sign, and Valsalva maneuver.

It has been my experience that this stress testing will show up positive in all or some of these tests

when a patient has a TMJ problem. I have seen patients with a few positive tests or all of them. Some phases of jaw motion may indicate a lesion, or a positive test, while others may not.

It is important at this point for you to understand the importance of the TMJ and how it affects the body on a systemic level. The TMJ, in my opinion and in the opinion of others, may very well be the most important joint in the body in terms of its homuncular relationship.

"Homunculus" means "little man" and refers to the Penfield and Rasmussen diagram in Gray's Anatomy and other anatomical books. This shows the percentage of nerve cells related to the areas of the body. Penfield and Rasmussen say that 40-50 percent of all the nerves in the body are related to the face and head. These imbalances in the TMJ can have many far-reaching systemic effects and symptoms due to the large neurological importance. A large number of brain cells are devoted to the oral cavity which include the TMJ, which is what the Penfield and Rasmussen diagram shows. This is true for the sensory and motor homunculus. It is without a doubt the most influential joint in the human body on a motor and sensory functional basis. This is one of the main reasons why the TMJ has such far-reaching effects systemically on the body. It has been my experience that evaluating this type of testing procedure for the past decade has demonstrated its efficacy and consistency. Try it, you'll probably find it very interesting and fun.

References are available upon request.

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