



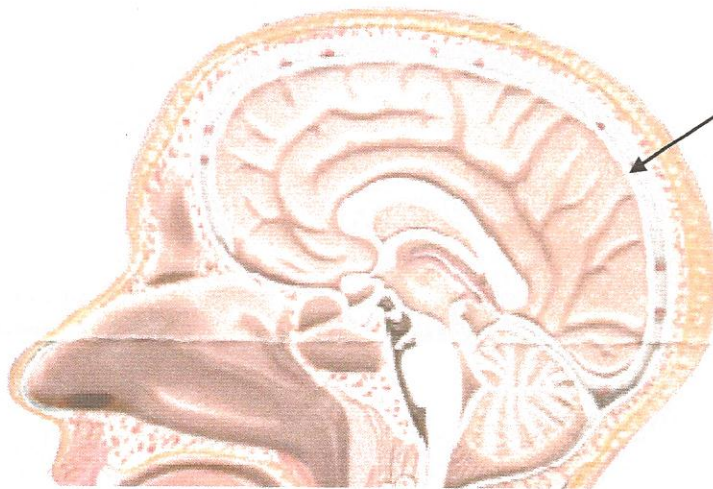
Injury Briefing

A review of the latest studies from Dr. Michael D. Berry.

Brain Injury After Whiplash

Headaches are, after neck pain, the most common symptom experienced by patients after a whiplash injury. These headaches can be caused by muscle strain or emotional stress that is common after a car crash. Also common are cervicogenic headaches, or headaches that originate in trauma to the deep structures of the neck, such as ligament injury. This recent case report by two Canadian chiropractors reminds us that not all cases of headache are so easily categorized.

The case involved a 65-year old woman who reported to a chiropractic clinic six days after a whiplash injury, “complaining of neck pain, lower back pain and headache. She stated that she was a right, rear and belted passenger in a vehicle, which was slowing down, when it was rear-ended. Her seat was not equipped with a headrest. She reported no loss of consciousness and she did not hit any body parts in the interior of the vehicle. She did not seek immediate medical attention. She took one Advil that evening, which provided her with some pain relief. At the time, she had more pain along the left side of her body.”



Dura mater

A subdural hematoma is caused when the brain tissue bleeds into the space between the brain and the dura mater, or the membrane that surrounds the brain.

Bleeding in this area fills the intracranial space, putting pressure on the brain. This pressure can cause neurological symptoms, such as numbness or weakness, problems with concentration, and severe headaches.

The patient seemed to have good function of memory and cognition, and she described her headaches as “a pressure-like sensation.”

The authors began a treatment program of mobilization of the upper spine, and manipulation of the lumbar area, and she reported progress with all of her symptoms other than the headaches.

“Approximately one month after the initial treatment, she reported feeling numbness in her right arm. She felt her right leg was weak and also noticed that her right leg was dragging. She noticed that she started to lose her balance and stated that on several occasions, her daughter caught her, as she was ‘falling.’ ”

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The authors sent the patient to the emergency room because of her alarming symptoms, and she was diagnosed at the hospital with a subdural hematoma. She underwent surgical decompression to relieve pressure on the brain, and two weeks later, had recovered and had no significant physical impairment.

As this study shows, subdural hematoma can be difficult to diagnose. There are a few key points to keep in mind when working with whiplash patients:

- **Brain injury does not require direct head impact.** In this case, the patient's head did not impact the car. However, the accelerations experienced by the brain within the skull were enough to cause bleeding of the brain tissue.
- Brain injury does not require loss of consciousness. It is a myth that you have to be "knocked out" to have suffered a concussion or brain injury.
- Differentiating between cervicogenic headaches and brain injury can be difficult. There are a few warning signs, however, that may indicate subdural hematoma:
 - Headaches get worse as time progresses
 - Headaches may not begin until 24 to 72 hours after the trauma
 - They are more likely in older patients
 - Weakness in one side of the body is often present

The only certain diagnosis of subdural hematoma is through neuroimaging, such as CT or MRI.

Headaches are a common symptom after auto injuries, and most of the time they are related to injury of the cervical spine. It is important to look for warning signs of more serious trauma, and make the appropriate medical referral if brain injury is suspected.

Stupar M, Kim P. Delayed-onset post-traumatic headache after a motor vehicle collision: a case report. Journal of the Canadian Chiropractic Association 2007;51(2):83-90.