

# Headache Sidelines Two-Thirds of Soldiers

BY MICHELE G. SULLIVAN

FROM CEPHALALGIA

**S**oldiers evacuated from current war zones with a headache diagnosis are unlikely to return to duty, a new retrospective study has found.

About a third of these soldiers were able to return to duty, even after receiving treatment, Dr. Steven P. Cohen and his colleagues reported (*Cephalalgia* 2011 Oct. 12 [doi:10.1177/0333102411422382]).

Headaches account for a significant

burden in units and for health care providers deployed to combat zones, wrote Dr. Cohen of Johns Hopkins University, Baltimore, and the Uniformed Services University of the Health Sciences, Bethesda, Md. “The overall [return-to-duty] rate of 33.6% is one of the lowest among all injury types, and to some degree reflects the observation that a large percentage of headaches were incurred during combat operations.”

Headache is the most common neurologic symptom in the world, he said, with some studies claiming that up to 70% of people are affected. But recent studies of soldiers deployed in the current wars suggest that the headache burden among recently deployed soldiers may be even larger. In addition to risking a combat injury, soldiers are exposed to constantly high stress levels. The combination is a perfect recipe for severe headaches.

“There are incredible psychosocial stressors involved in being deployed,” he said. “In addition to the daily possibility of being injured or killed, soldiers worry about family separation and about their colleagues who serve along with them. And this is happening in young people in whom sophisticated coping mechanisms have not yet been developed.”

To understand how headache might affect the strength and stability of military units, Dr. Cohen and his coauthors reviewed the records of 985 soldiers who had been evacuated from the wars during 2004-2009 with a primary diagnosis of headache.

Headache diagnoses fell into seven categories: postconcussive (33%); tension type (11%); migraine (30%); cervicogenic (9%); occipital neuralgia (5%); cluster (2%), and “other,” a category that included tumor, vascular pathology, psychogenic headache, substance abuse, and cerebrovascular events presenting as headache.

The soldiers’ mean age was 30 years; most (88%) were men. Almost half of the headaches (48%) were related to physical trauma; 3% were deemed psychological or emotional, 3% as environmental or infectious, and the remainder were of other etiologies or unknown. In all, 22% of the soldiers reported a prior history of headache.

Headaches were deemed to be battle related if they were sustained in a combat operation (31%). Another 62% were



COURTESY KEITH WELLS

**Headache has replaced respiratory and infectious disease as a primary reason for evacuation, said Dr. Steven P. Cohen.**

not related to combat, and data were unavailable for the remainder.

Episodic headache was most common (52%); 39% had constant headache. The authors did not find frequency data for 9% of the group.

Once evacuated, treatment varied widely among the group. Nonsteroidal anti-inflammatory drugs were the most commonly used medications (77%), followed by antidepressants (64%), opioids (34%), anticonvulsants (29%), and triptans (27%).

Other medical treatment included beta-blockers (11%) and calcium channel blockers (2%). Many soldiers (36%) were on multiple therapies, and 9% received injections or nerve blocks. Another 7% received an alternative medicine treatment and 4% received no treatment.

In multivariate regression analyses of the factors associated with return to duty, the investigators controlled for age; sex; military branch; headache diagnosis and etiology; treatment; psychiatric and brain injury history; family and personal headache and pain history; and smoking.

Headache type was significantly associated with return to duty. A diagnosis of occipital neuralgia lowered the odds of returning to duty by 80%, compared with tension-type headache, the reference diagnosis.

Other diagnoses that lowered the odds

of a soldier’s returning to duty included postconcussive headache (by 67%), cervicogenic headache (by 60%), and coexisting traumatic brain injury (by 50%).

The method of treatment also affected a soldier’s return to duty. Compared with no treatment, the odds of returning to duty were significantly lowered by

59% with opioids and by 74% with beta-blockers.

Because the study examined only cases with a primary diagnosis of headache, it probably understates the disorder’s true impact, Dr. Cohen said. Posttraumatic stress disorder, musculoskeletal injuries, concussions, and motor vehicle accidents – all very common wartime injuries – can cause chronic headaches.

Whether soldiers return to the battlefield, or are kept on active duty and treated outside the war theater, the cost to the military is high, he said.

“We now know that two-thirds of those who leave with headache don’t come back, and even if they do, they may have limitations. They might not be able to go on foot patrol or wear their Kevlar gear – but they are still using resources. And for every soldier who is evacuated, the unit goes short and someone else has to be deployed.”

Headache treatment can last for months, he added, tying up military medical centers during active duty and after discharge.

“They continue utilizing medical and military resources the whole time they are being treated, and this costs America a huge amount of money,” he said. “Even if all our troops would pull out tomorrow, we will be paying for this for the rest of our lives, as will the soldiers who are injured.”

**VITALS** **Major Finding:** Some 66% of soldiers who were evacuated from war theaters for headache were never able to return to active duty on the front. **Data Source:** A retrospective review of almost 1,000 soldiers in Operations Iraqi Freedom and Enduring Freedom who were taken off the battlefield with a primary diagnosis of headache. **Disclosures:** The study was funded by a grant from the John P. Murtha Neuroscience and Pain Institute, the U.S. Army, and the Army Regional Anesthesia and Pain Medicine Initiative. Dr. Cohen had no financial declarations.

Throughout history, most war casualties haven’t been battle related, Dr. Cohen said in an interview. “Since World War I, nonbattle injuries have been by far the No. 1 reason a soldier is evacuated from the field.” Dr. Cohen is a colonel in the U.S. Army Reserve and director of pain research at the Walter Reed National Military Medical Center.

“In the earlier wars, it was respiratory and infectious disease. In these more modern conflicts, the No. 1 reason for evacuation is musculoskeletal injury, followed by psychological and neurological problems – and all of these can involve headache.”

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## ‘Shocking Percentage’ of Patients on Triptans Despite Risks

BY BETSY BATES

FROM THE ANNUAL MEETING OF THE AMERICAN NEUROLOGICAL ASSOCIATION

**SAN DIEGO** – Triptans are routinely prescribed to migraine patients who have a history of cardiovascular disease, according to evidence from a large medical claims database study.

Serotonin (5-HT) receptor agonists are among the most commonly prescribed medications for migraine patients, but

are contraindicated in patients with a history, signs, or symptoms of ischemic cardiac, cerebrovascular, or peripheral vascular syndromes; any other underlying cardiovascular disease; or uncontrolled hypertension, according to package inserts.

Daisy S. Ng-Mak, Ph.D., of Merck Sharp & Dohme, and her colleagues randomly selected 10 representative health plans from MedAssurant Inc.’s MORE<sup>2</sup> (Medical Outcomes

for Research on Economics and Effectiveness) registry, which contains records from 2.5 million people. They found that 8% of 121,286 migraine patients had a cardiovascular contraindication, such as a history of myocardial infarction or stroke or documented prescriptions for cardiovascular disease.

Among those patients, 22% had received a prescription for a triptan during 2009, the authors reported at the meeting.

The MedAssurant MORE<sup>2</sup> registry includes claims data on patients aged 18-64 years.

Dr. Ng-Mak and her coauthors identified migraine patients through chart diagnoses, prescription claims, or treatment of at least two headaches at least a week apart. They similarly found cardiovascular contraindications by either diagnosis or prescription claim data.

Among patients aged 18-49 years with such a cardiovascular

contraindication, 24% received a triptan prescription.

“Especially ... concerning,” the authors noted, was the fact that 21% of older migraine patients with cardiac contraindications at the time of the study had received a triptan prescription.

These 50- to 64-year-olds “may be exposed to other risks” that heighten cardiac concerns, Dr. Ng-Mak said.

In an interview following the *Continued on following page*

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meeting, Dr. Ng-Mak said she found the findings “quite eye catching.”

“We really don’t know why we saw this high percentage – a shocking percentage – of patients with cardiac contraindications [who were] receiving triptans,” she said.

Dr. Juline Bryson, a neurologist and headache specialist at St. Luke’s–Roosevelt Hospital Center, New York, said “overfamiliarity” may be to blame.

In the 20 years since the introduction of sumatriptan, the drug class has greatly expanded and has been widely accepted as efficacious therapy for migraine, she said.

“We may be getting so comfortable with prescribing triptans these days that we almost think of them like Aleve or Advil,” said Dr. Bryson, who was not affiliated with the database study.

In brief, 10-minute visits, primary care physicians may not be taking the time to carefully consider the patient’s history

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when they decide to quickly prescribe something for migraine pain.

Another neurologist unaffiliated with the study, Dr. Matthew S. Robbins, said that patients often arrive at the Montefiore Headache Center in New York with a history of taking triptans that long predates their cardiovascular history.

When the patient was “young and healthy” many years before, he or she received a triptan prescription for migraines, was satisfied, and kept requesting it, he speculated. At some point along the way, a cardiovascular condition developed, but physicians kept refilling the triptan prescription without realizing that the drug was now contraindicated.

“I have had to refuse to refill the prescriptions over the severe protest of the patient, because [the drug had] worked so well,” said Dr. Robbins, a neurologist at Montefiore Medical Center in New York.

A separate study – the U.S. population-based AMPP (American Migraine Prevalence and Prevention) study – found that 10% of 5,591 individuals with episodic migraine reported that they had experienced a major cardiovascular event, such as stroke or MI, or a cardiovascular procedure.

The analysis examined five areas of unmet need among persons with episodic migraine, including cardiovascular event history, reported Dawn C. Buse, Ph.D., of the department of neurology at the Albert Einstein College of Medicine and director of behavioral medicine at the Montefiore Headache Center, both in New York.

More than 40% of episodic migraine

patients met criteria for at least one type of unmet need related to acute headache medications, including dissatisfaction with treatment (15.2%), moderate to severe headache-related disability (19.2%), excessive use of opioids or barbiturates (13%), and two or more visits a year to an emergency department or urgent care center for headache (2.3%).

According to Dr. Buse, “these data demonstrate that despite the existing armamentarium of acute headache therapies, many individuals with headache are not receiving satisfactory

results. This is likely due to a range of factors, which may include limited access to care, cost barriers, and limitations of existing acute treatments for migraine.”

In this portion of the study, patients with cardiovascular disease were not asked whether they were taking triptans, but in a previous report from AMPP, widespread triptan use was seen in migraineurs (*Headache* 2010;50:256-63).

That study found triptan use in 8.5% of patients with a history of MI, in 7% of those with a history of stroke, in 9%

of patients who had undergone heart surgery, in 16% of patients with transient ischemic attacks, and in 18% of patients with a history of claudication.

MedAssurant’s MORE<sup>2</sup> registry was sponsored by Merck Sharp & Dohme. The AMPP study was funded through a research grant to the National Headache Foundation from Ortho-McNeil Neurologics, with additional support provided by Allergan Pharmaceuticals, NuPathe Inc., and Merck Sharp & Dohme. Some of the AMPP investigators, including Dr. Buse, have received research support from Allergan and NuPathe. ■



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