

Putting the “New” Stroke Triggers in Context

The recent media frenzy about strokes may have created misconceptions about the actual risks. Here’s what you should know about the studies to put the information in context.

By Nathan Hall
Associate Editor

There has been an increased interest in stroke risks lately thanks to the COX-2 inhibitor scandal in the lay media (for an assessment, see this month’s Pain Management column on page 78). As a result, there’s a great deal of fear among patients—but few valid reasons for it. Most of your patients have probably seen news reports suggesting that these drugs can raise their risk of stroke more than 50 percent, but few have any idea of how much of a *real* risk that presents to them.

You’re likely to find yourself faced with questions about these risks, and while staying abreast of the ongoing Vioxx/Celebrex/naproxen scandal there have been a few other news stories about

other factors that could increase stroke risks that have been largely overshadowed. It’s possible these may pertain to your patients and should be included when discussing stroke risks.

In this month’s column, we’ll look at how to put the sensation into context for your patients and review a few studies that may have gotten overshadowed in the mainstream media.

Relative Risks

If you encounter patients who are concerned over the potential elevated stroke risk from taking one of these drugs, you may want to let them know their actual risk using an objective scale such as the Framingham stroke risk model. This would show that the greatest increase in the odds of stroke come from gender, race, age, family history, diabetes and other conditions, all of which are beyond the patient’s or the physician’s control and unrelated to medication use. This

may help patients put any possible rise in risks into context with their overall stroke profile.

However, of course, this is not a justification for your patients to stop trying to prevent a stroke especially if they have a high-risk profile. This would be a good time to tell your patient about any lifestyle choices they have that could raise the chances of an ischemic incident. Smokers, overweight patients, the physically inactive and excessive drinkers all have a higher stroke risk than the general population.

The decision to take patients off Celebrex or naproxen may not be one

you or the patient’s pain management physician want to make just yet. The studies linking these drugs to cardiovascular incidents still haven’t been published or analyzed and they run contrary to other studies. What’s more, some patients may decide the relief offered from the drugs is worth a small risk increase. Both vascular specialists and pain management experts will be waiting for additional studies to provide a clearer picture of how to weigh the dangers against the benefits.

While Vioxx, Celebrex and the other NSAIDs may have been getting all the attention for their potential to increase stroke risk, those haven’t been the only new potential risk factors identified. Headache could be another factor, as can a choleric disposition or even a startling event. We’ll look at each in turn next.

Brain Pain and Brain Attacks

A review published in the *British Medical Journal’s* December 13 online edition identified a new potential risk factor by looking at the common findings in 14 studies listed in Medline and Embase. This meta-analysis found the pooled relative risk for ischemic stroke among migraineurs was 2.16. For those who had aura, the risk was 2.27; for those without, it was 1.83. The reviewers also found that the use of oral contraceptives increased stroke risks approximately eight-fold compared to patients who did not use these agents.

Overall, the available data suggest that migraine may be an independent risk factor for stroke. The review’s



authors, Ali Samii, MD of the University of Washington and Mayhar Etminan, PhD of the Royal Victoria Hospital in Montreal, speculate that the raised risk could be caused by reduced blood flow to the brain during a migraine episode. They called for more research on the relationship between stroke and migraine, especially among those patients using oral contraceptives.

While the exact mechanism that causes migraine to elevate a patient's stroke risk may be elusive, another study suggests migraine may be related to angina. *Neurology* 2004;63:2233-2239 contains a paper from Kathryn Rose, PhD at the University of North Carolina at Chapel Hill that suggests a correlation between a history of migraine and angina chest pain. Specifically, patients with migraine and other headaches with aura have a prevalence ratio of 3.0, twice that of those with migraine or other headaches without aura. Interestingly, the study found no link between migraine and coronary heart disease, regardless of whether or not aura was present.

Independent Triggers

Another review found the popular saying "Don't give yourself a stroke" may actually be a valid warning. Strong emotions, startling events and similar factors may be independent triggers for an ischemic stroke, according to a case-crossover study reported in *Neurology* 2004;63:2006-2010. While these are not as powerful as the main risk factors for stroke, they may trigger a premature onset.

Researchers at the Israel Center for Disease Control interviewed 200 consecutive stroke patients one to four days after their events. They found 38 percent reported exposure to at least one of the following triggers within two hours before the ischemic attack: negative or positive emotion, anger, sudden posture changes as a response to a startling event, heavy physical exertion, heavy eating, and sudden temperature changes during

a two-hour hazard period before stroke onset. To set a standard of normalcy, the patients were asked to compare the trigger to the same period the previous day and to the average exposures last year. The study's author, Silvia Koton, PhD, said studying these triggers could reveal important areas for intervention.

Patients with particularly high stroke risk profiles should probably be

and followed them for a median of 2.5 years. The result: unskilled workers had a hazard ratio for death after stroke of 1.87 and skilled workers had a risk of 1.61 compared to white-collar workers.

All of the patients in the study lived in Austria, a country with an equitable health care system and guaranteed access for every citizen, which made the class connection surprising. Dr. Arrich speculated this could be attributed to individual pre-stroke conditions, although her data also suggest there could be an ongoing effect of socioeconomic status after the stroke event. Hopefully, further research will be able to identify these risks and how to eliminate them.

Higher Interest Rates

While these stories may generate a lot of unnecessary anxiety concerning stroke among the public, they can also raise public

awareness of the condition, making patients more receptive to education on preventive measures. Patients may start noticing the potential for a stroke and start taking better care of themselves, which could go a long way towards preventing an incident. This also offers an opportunity to expand their understanding about other factors that could affect their health.

The flurry of recent research into stroke risk factors and potential triggers may also open the door for further studies that could identify yet more risk factors and more areas for intervention. Understanding the link between migraine and stroke as well as identifying other possible triggers, could significantly improve neurologists' prevention efforts. And looking at the sociological factors can improve care for patients throughout the nation. **PN**

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warned about these potential triggers, especially since many of them are also recognized as possible triggers for cardiac infarction. Keeping calm in stressful or startling situations could save their lives, as could practicing moderation.

Stroke Belt and Collar

The "stroke belt"—the high incidences of stroke in the southeastern states—has been widely documented. The exact reason for this geopolitical boundary remains elusive, although research into sociological factors may yield more information about the connection.

For example, a study reported in *Stroke's* December 29th online issue correlates social class with survival odds. Jasmin Arrich, MD and colleagues from the Medical University of Vienna looked at 2606 adults who had ischemic stroke or TIA, noted their socioeconomic status