Adverse events spike after blood pressure meds go generic in Canada

October 3 2017

One month after generic versions of three widely-used blood pressure drugs became available in Canada, hospital visits for adverse events spiked in generic drug users, according to new research in *Circulation: Cardiovascular Quality and Outcomes*, an American Heart Association journal.

Researchers in Quebec compared hospital visits and emergency room consultations among 136,177 patients, aged 66 years and older, who took one of three hypertension medications before and after their generic versions became available. The drugs - losartan (Cozaar), valsartan (Diovan) and candesartan (Atacand) - are also used in patients with heart failure.

They found:

- Before generic versions were commercialized, the average proportion of adverse events was 10 percent.
- The month when generics were commercialized, the rates of adverse events ranged from 8 percent to 14 percent for patients using generics, depending on the type of drug.
- The increase was 8 percent for losartan, 11.7 percent for valsartan and 14 percent for candesartan, and the rates for losartan remained consistently higher for the study year.

"Because most users of a brand-name drug are switched to generic versions within two or three years after it becomes available, the

observed increase in adverse events could reflect an acute response to equivalent, but not identical, generic drugs for newly switched patients," said Paul Poirier M.D., Ph.D., FAHA, study author and professor of pharmacy at Laval University in Quebec City.

The immediate increase of adverse events in these three generic drugs could, hypothetically, be explained by differences between drugs. "In our study, patients could have been substituted to a generic version that is pharmacokinetically 6 to 21 percent different from the brand-name version that was used," Poirer said. "The results must be interpreted cautiously because studies like this assessing adverse events over a fixed time period, combined with differences between patients, make drawing firm conclusions difficult. Also, because the findings were based on medical claims data, there may be inaccuracies."

After the first month, the difference between brand names and generics narrowed, but some differences persisted - primarily cardiovascular problems, he said. To some degree the findings might partially reflect various demographic differences between generic users, although clinical differences among very sick and lower socioeconomic patients were minimal, according to the authors.

"Although generic drugs are generally considered to be equivalent, patients and their physicians should be aware that they may not have exactly the same effect as their brand-name counterparts, especially during the first month as patients transition to the new medicine," Poirier said.

More information: *Circulation: Cardiovascular Quality and Outcomes* (2017). DOI: 10.1161/CIRCOUTCOMES.117.003891

Provided by American Heart Association