

Inderal Indatoilet

By ACSH Staff — October 9, 2012

It is *very* unusual when an old, well-established class of drugs is suddenly shown to be less effective than previous thought. Or even useless. But according to a large [study](#) [1] in the October 3 JAMA, this may very well be the case with beta-blockers, a staple of heart and blood pressure treatment since the 1970s. The implications are huge--almost 200 million prescriptions were written for these drugs in the U.S. in 2010 alone.

Inderal (propranolol) was the first drug in a class of *non-specific beta-adrenoceptor antagonists* (mercifully shortened to beta-blockers) that was launched in 1964 by Imperial Chemical Industries (now AstraZeneca) for treatment of angina. Its inventor, Sir James Black was later awarded the Nobel Prize in medicine for what is sometimes called one of great medical discoveries of the century. Beta-blockers have been used routinely for decades, and there are now about 20 of them to choose from. But should they be chosen at all?

The JAMA authors concluded that:

"Among patients enrolled in the international REACH registry, beta-blocker use was not associated with a lower event rate of cardiovascular events at 44-month follow-up, even among patients with prior history of MI. Further research is warranted to identify subgroups that benefit from beta-blocker therapy and the optimal duration of beta-blocker therapy."

While this is not definitive, it's pretty damning, especially when another study--the second in one week--says pretty much the same thing .

A group at the University of Maryland School of Pharmacy examined post-MI drug compliance in the *Journal of the American Geriatrics Society* that examined [patient compliance following a heart attack](#) [2]. About 50 percent of patients properly took their prescribed medications following a heart attack. As one would expect, patients who refilled their prescriptions for standard drugs, (typically statins, anticoagulants, blood pressure medications and beta-blockers) had a 29 percent reduced risk of dying than those who did not--except in the case of beta-blockers. It did not matter whether these were refilled or not. This is by far the most interesting aspect of the study.

So, what is going on here?

Beta-receptors are molecular switches that are embedded in the surface of cells. When either epinephrine (adrenaline) or nor-epinephrine bind to these receptors this sends a signal into the cell, which is then activated to carry out some function, such as speeding up the heart. This

binding and the subsequent response are responsible for the "fight or flight" response.

Blocking of this process in heart cells partially prevents adrenaline from reaching the receptors, causing the heart to slow and beat less forcefully, while also lowering blood pressure. It has long been medical dogma that these effects give the heart "a rest," thus diminishing the frequency of additional cardiac events.

But it seems that popular wisdom is becoming unpopular. I doubt that these studies will result in the immediate cessation of beta-blocker use, but I'm sure that cardiologists will be paying careful attention.

"[Inderal Indatoilet](#) ^[3]" (*Medical Progress Today*)

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Links

[1] <http://jama.jamanetwork.com/article.aspx?articleid=1367524>

[2] [http://onlinelibrary.wiley.com/doi/10.1111/j.1532-](http://onlinelibrary.wiley.com/doi/10.1111/j.1532-5415.2012.04165.x/abstract;jsessionid=35C8B37A264BC1826B0722909B0F6292.d03t03)

[5415.2012.04165.x/abstract;jsessionid=35C8B37A264BC1826B0722909B0F6292.d03t03](http://onlinelibrary.wiley.com/doi/10.1111/j.1532-5415.2012.04165.x/abstract;jsessionid=35C8B37A264BC1826B0722909B0F6292.d03t03)

[3] <http://www.medicalprogressstoday.com/2012/10/inderal-indatoilet.php>