

Dear Clinicians,

Did you notice this alert in the mail over the last couple of months? Letters went out nationwide to physicians and patients alerting all that atenolol was in short supply! That is a BIG deal! Atenolol is one of the top medicines prescribed in the US. Amongst all medications, anti-hypertensive or not, it is still ranked #25 in terms of U.S. prescriptions.

This shortage in atenolol should at least revive the discussion about the use of atenolol in the management of hypertension. In the management of uncomplicated hypertension, it is clearly an inferior drug in preventing bad cardiac outcomes when compared to the other commonly prescribed medications (diuretics, calcium channel blockers and ACE-I/ARBs). But be cautious with stopping or changing the dose of atenolol in the face of this shortage. Patients should not stop atenolol “cold turkey”. Any changes must be made under supervision.

Atenolol should not have a role to play in the management of uncomplicated hypertension. By uncomplicated, I mean hypertension without any associated cardiac disease. Even when compared to PLACEBO, atenolol is not associated with any decrease in adverse cardiac outcomes. Atenolol does lower blood pressure very nicely, BUT what is the point of having a nice looking blood pressure if you are still going to suffer a cardiac event? This is why JNC-6 (1997) was the last guideline to recommend beta-blockade as a first-line option for hypertension treatment.

So why is it that even though atenolol reduces BP, this reduction does not translate into the expected improved cardiac outcomes? An intriguing finding was noted in the ASCOT study that noted cardiac outcomes were improved with amlodipine-based therapy in comparison to atenolol, despite similar BP reductions. It was fascinating that even though brachial BP (traditional upper arm BP cuff measurement) was reduced nicely in the atenolol arm, yet the reduction in central aortic pressures was NOT impressive. This was in contrast to amlodipine that reduced both brachial AND central blood pressures. That would explain the worse CV outcomes with atenolol! Central aortic pressure is the key to cardiac outcomes. We usually assume that changes in brachial blood pressures are reflective of central pressures, but it appears that this is not the case of atenolol.

Bottom-line, please be aware that your patients on atenolol may not be able to get refills because of the shortage. However, if your patient has uncomplicated hypertension, this may be a great opportunity to redesign their antihypertensive medication regimen into one that is more likely to result in better cardiac outcomes.

If you have specific questions related to hypertension management, Dr. Williams can be reached directly by email at Stephen.Williams@nyumc.org, or by phone at 646-320-8075.

THE BP VISIT PROJECT TEAM

