



Cardiac Drugs, High Blood Pressure and Polio Survivors

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As with all things post-polio, there are special considerations when choosing medications to treat hypertension. Over years of practice, physicians typically become comfortable with and use just a small number of drugs. The problem is that medications doctors may regularly use to treat high blood pressure can be problematic for polio survivors.

For years, the first drug prescribed to treat hypertension would be a diuretic, a “water pill.” Diuretics, like Diazide and Furosemide, lower blood pressure by decreasing the amount of fluid in your arteries, like taking water out of an overly-full balloon. But, diuretics decrease fluid by making you pee...and pee and pee. Frequent trips to the bathroom may not be an issue for other folk. But it's not a good idea for polio survivors with fatigue and weaker arms and legs to be running (or rolling) to find the nearest accessible bathroom and getting on and off the throne a dozen times throughout the day and night.

Another older antihypertensive is the beta blocker, Inderal being the granddaddy of the group, which lowers blood pressure by blocking adrenaline from stimulating the “beta” receptor on heart muscle, thereby decreasing the speed and force with which your heart beats. The problem is that these drugs block adrenaline from stimulating beta receptors in other places, including the brain, and thereby decrease brain activation. Polio survivors, especially those with fatigue, don't need a drug that further reduces brain activation. Of all the antihypertensive meds, beta blockers are probably the worst offenders when it comes to producing fatigue as a side effect.

If you look at the drug companies' own studies for medications currently listed in the Physicians' Desk Reference, fatigue was a side effect in 2% to 6% of subjects on beta blockers (Naldolol, Tenormin or Timolol), versus about 1% to 5% of those taking a placebo. What's more, Timolol caused cold hands and feet--like fatigue; a symptom polio survivors need no help in developing--in 8% of subjects versus 1% of those given placebo. Further, beta blockers can make asthma symptoms worse.

Other older antihypertensive meds that cause fatigue are the alpha blockers. These drugs stop adrenaline from stimulating the “alpha” receptors on blood vessels and thereby allow arteries to open; lowering pressure by increasing the size of the “pipes” blood can flow through, just as using a bigger hose will reduce the pressure of water flowing out of it. But, as with beta blockers, anything that blocks the stimulating effects of adrenaline can cause brain “deactivation” and fatigue. Fatigue was reported in more than 7% of subjects taking alpha blockers Cardura, Hytrin and Minipress, versus 2% to 3% of those on placebo.

Over the years, newer antihypertensive medicines were developed that don't block adrenaline and are less likely to cause fatigue. The calcium-channel blockers (CCBs) open blood vessels and reduce the force of contraction of the heart by reducing the flow of calcium into muscle cells. CCBs Procardia and Norvasc caused fatigue in from 4% to 6% of subjects, versus 3% to 4% of those given placebo. But, fatigue was not reported with CCBs Cardene and Verapamil.

Differences in the ability to produce fatigue were seen among another class of newer

antihypertensive meds, the angiotensin receptor blockers (ARBs). These drugs prevent angiotensin, a hormone that causes blood vessels to narrow, from stimulating arteries and making them constrict. ARBs Diovan and Avalide caused fatigue in 4% to 5% of subjects, versus 1% to 3 % of those on placebo. Fatigue was not reported with ARBs Atacand, Micardia, and Cozar.

A varying ability to produce fatigue was also seen among a related group of antihypertensive meds, the angiotensin converting enzyme (ACE) inhibitors, which block the production of angiotensin. ACE inhibitors Accupril, Lotensin, Vasotec and Zestril were found to cause fatigue in about 2% to 5% of subjects, versus 1% to nearly 3% of those given placebo. However, fatigue was not reported with ACE inhibitors Aceon, Altace and Monopril.

Considering their side effects, should polio survivors *never* take certain of these antihypertensive medications and always ask to use others? If only it were that simple. First, some of these “antihypertensive” medications have applications other than lowering blood pressure. Beta blockers are used to treat abnormal heart rhythms; they also are used to treat angina by reducing the force of contraction of a heart that has too little blood flowing to it. Calcium-channel blockers are also used to treat angina and to prevent migraines. And alpha blockers are used to treat enlarged prostates and can actually help to warm cold hands and feet. Second, since some people have hypertension that is difficult to manage with only one medication, a combination of drugs may be needed that might necessarily include a beta or alpha blocker.

When taking any new medication, it is important that polio survivors keep a log of side-effects and discuss these with their doctors. The dose or time of day when you take a medication, for example taking a fatigue-producing medication before bed, or taking a long-acting, slow-release form of a drug, may minimize its side effects. As we’ve discussed before, don’t let doctors get away with telling you that a drug couldn’t be causing new fatigue or weakness because they haven’t seen those symptoms in other patients. Polio survivors are **not** like other patients. If your doctor doesn’t listen to you, get another. And if you’re not comfortable with the medications your family doctor or internists is using to treat your hypertension, or if your blood pressure isn’t coming down in spite taking a combination of drugs, don’t hesitate to consult a cardiologist who’s also a hypertension specialist.

Remember: The stroke you prevent by keeping your blood pressure down will be your own!

[The Encyclopedia of Polio and Post-Polio Sequelae](https://www.papolionetwork.org/encyclopedia.html) contains *all* of Dr. Richard Bruno’s articles, monographs, commentaries, videos and “Bruno Bytes”
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