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BP Meds in the AM?

Why do we continue to give BP meds in the morning? I guess old habits die hard. Despite evidence indicating daytime administration of most BP meds is not ideal, we continue to blindly give them at this time.

Four years ago the MAPEC study was published. That study showed sharp reductions in cardiac events and mortality if at least one blood pressure medication was taken at bedtime, rather than in the morning. The principal theory this benefit is attributed to is the BP dipping phenomenon. In most people, systolic BP drops by at least 10% during sleep, reducing workload and stress on the heart, kidneys and blood vessels. People who do not experience this BP reduction, “non-dippers”, have more CV events.

A further analysis of the data, published this month in *Diabetologia*, showed that diabetes develops far less often in hypertensive patients who take their BP medications at bedtime. Over 2,000 study participants were followed for

almost six years and those taking their BP meds at night were 57% less likely to develop diabetes. The greatest benefit was seen with β -blockers (e.g. metoprolol), ARBs (e.g. Atacand®, Diovan®) and ACE inhibitors (e.g. Altace®, Coversyl®). Diuretics, calcium channel blockers (e.g. Norvasc®) and alpha-blockers (e.g. Flomax®) did not seem to offer added benefit, so these (except perhaps Flomax®, which can cause postural hypotension) should be retained for AM administration.

Bedtime administration of BP drugs is recommended as the treatment of choice by the *American Diabetes Association*, *Japanese Society of Hypertension* and a number of other agencies. If bedtime drug administration is not inconvenient for your residents, this option warrants strong consideration.

Metformin and B12

For some time we have known that metformin can reduce vitamin B12 levels. Up to 30% of patients taking metformin will become deficient, possibly developing macrocytic (large red blood cell) anemias and peripheral neuropathy. This can usually be corrected by adding 1000 mcg of an oral B12 supplement daily, although the neuropathy can be irreversible if not addressed early.

Recognizing this deficiency in diabetics can be difficult, as diabetes itself may affect nerve conduction, leading to peripheral neuropathy.

Serum B12 levels are often not reliable, so CBC results showing macrocytic anemias may be the first definitive clues of B12 deficiency. Some researchers are suggesting that vitamin B12 be supplemented routinely in patients taking metformin. This may be worth considering, especially in residents taking other drugs, such as PPIs (e.g. Pantoloc®) which can also reduce B12 absorption.

Antipsychotic Response

In the current climate we are trying to use antipsychotic medications as judiciously as possible. If there was a way to predict how effective one of these drugs would be shortly after it was started, that would be quite beneficial.

A recent meta-analysis of schizophrenia patients in *Am J Psych* addressed this matter. They looked at symptom improvement after two weeks using the PANSS and BPRS rating scales. If symptom improvement was less than 20% after two weeks, response in 4 – 12 weeks was poor in the majority of cases. If these results could be extrapolated to our dementia residents with psychoses, it could help limit extended use of these drugs.

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