

Small Doses of Lorazepam Given at 3:30AM and at Bedtime Significantly Decrease early Morning Malignant Blood Pressure Spikes in Patients 65 Years and Older

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Abstract This study builds upon a 9 year daily case study of a 71-80 year old Caucasian woman who documented at least 6 daily blood pressure readings per day, with a focus on the early morning malignant blood pressure spikes and the variety of blood pressure medications given to her by various physicians in several states. The documentation included time of day, duration of spike, and her perseverance in finding a prophylactic that ended these spikes. The pathophysiology of early morning malignant blood pressure spikes is not completely understood, but the primary cause of malignant blood pressure spikes in the morning may be a misdirected activation of the sympathetic nervous system due to a genetic mutation or deterioration due to age. There are contradictory opinions on the percentage of the elderly experiencing these spikes. Some research reports that these spikes are rare and usually found in men, African Americans and the poor. Other reports contradict these findings and state that malignant early morning spikes are common, but patients are not aware of them. All agree, however, that these early morning malignant spikes had a significant increased risk of cardio vascular event, stroke, heart attacks and death. This study was conducted because the older woman researched was knowledgeable about the human body [studied science, anatomy and physiology, and was a competitive athlete in her youth]. She was trained to know her body and could easily identify when the spikes began in early morning, timed the amount of time blood pressure went from normal to very high [2 minutes], and measured time it took for blood pressure to return to normal. Her way of coping with the 9 years of these stressful spikes was to conduct a research project and hopefully be able to help other senior citizens prolong their own lives.

Keywords: blood pressure, malignant spikes, lorazepam, senior citizens, sympathetic nervous system

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1. Background

Hypertension prevalence, including early morning malignant spikes, increase substantially with age. Studies show that the most common time of day for heart attacks is in the morning and these early morning heart attacks lead to more heart damage and fatalities than during any other time.

Diagnostic inertia for hypertension-when a patient is classified as normal in the physician's office but exhibits numerous early morning spikes and is unaware of the symptoms or of this event happening. This patient is also at high risk of early morning coronary or stroke events.

The standard practice of most physicians is to group the malignant early morning spike with the common, daily high blood pressure reading and to treat both with a variety of blood pressure medications.

Our hypothesis is that there is a difference in both causation and treatment for the early morning malignant

high blood pressure spikes. We hypothesize that a disfunction in the sympathetic nervous system in elderly patients, either due to genetic mutation or dysfunction due to age, is the trigger for the spikes and treatment should be adjusted because of this.

Our 9 year case study added early morning [3:30AM] administration of 1 mg of lorazepam to the patients usual blood pressure medication treatment. Lorazepam is an accepted treatment for Sympathetic Nervous System Disorder, which our hypothesis addresses as a cause of these spikes. While blood pressure medications are effective treatment for the daily blood pressure rises and dips, it is not an effective treatment for early morning malignant blood pressure spikes due to the dysfunction of the sympathetic nervous system.

It is our hope that this study triggers some curiosity and perhaps some interest in these early morning spikes. Our goal is that eventually changes in treatment will occur that may save senior citizen lives from heart attacks and strokes.

2. Methods

A 9 year daily case study was initiated by the subject in September of 2011. This study was motivated by observing the perplexed doctors who tried a variety of blood pressure medications but with no success in decreasing or stopping the malignant morning blood pressure spikes. They saw the malignant blood pressure spikes and the normal blood pressure readings during the day as “one and the same” and repeated the same treatment over and over again, but with no positive results. The subject took matters into her own hands by first starting a daily documentation of at least 6 readings per day, with notations of times and duration of every early morning spike for 9 years. She timed the up curve of the spike, which averaged 2 minutes from normal blood pressure to very high. She further noted the

medication that was taken each day and the time of day that it was taken. Her ability to identify a spike when it occurred was a helpful skill and one that made this study possible.

3. Data Analysis

From September 2011-August 2020, every spike was recorded, noting speed of spike and duration. At least 6 other readings were recorded during the day as baseline data. Medications and time of day were recorded and compared to number of spikes during each month. Other factors in patients life remained consistent- vegetarian diet, 3 hours of aerobic exercise each day, 8 hours of sleep each night, non-smoker, non-alcoholic drinker, meditation, study for 1 1/2 hours daily.

THE STUDY RESULTS ARE AS FOLLOWS:

YEAR	MONTH	# OF SPIKES OVER 170/90	MEDICATION
2011	Sept.	6	80 mg valsartan 5PM
	Oct.	6	
	Nov.	2	
	Dec.	4	
2012	Jan.	1	
	Feb.	0	
	March	3	
	April	10	added 80 mg propranolol 7AM
	May	5	
	June	3	
	July	2	
	August	4	added 1 mg lorazepam 3:30 AM
	Sept.-Oct.	0	
	Nov.	0	
	Dec.	1	
2013	Jan.	1	
	Feb.	0	
	March	1	
	April	0	
	May	1	
	June-July	0	
	August	1	
	Sept.-Dec.	0	
2014	Jan.-Sept.	0	
	Oct.	1	
	Nov.-Dec.	0	
2015	Jan.-June	0	stopped lorazepam
	July	4	
	August	9	
	Sept.-Dec.	0	started lorazepam
2016	Jan.-Dec.	0	
2017	Jan.-Aug.	0	
	Sept. 1-13	0	stopped lorazepam
	Sept. 15-30	8 [between 145/84-158/94]	
	October	8	started 1/2 lorazepam, 40 mg. propranolol
	Nov.	2 [between 147/89]	
	Dec. 1-24	0	stopped lorazepam
	Dec. 25		severe spikes, 220/124, 250/124; one off the charts, couldn't be measured. Hospitalization; elevated heart enzymes, blood chemistry very elevated
	Dec. 26		started long term beta blocker 40 mg. valsartan
	Dec. 27-28	0	
	Dec. 29	1 [176/98/67]	
	Dec. 30	4 [between 180-99/90-211/100]	
	Dec. 31	1 [171/102/64]	

YEAR	MONTH	# OF SPIKES OVER 170/90	MEDICATION
2018	Jan.	11 [between 244/109-172/97]	Started .1 clonidine in AM stopped longterm beta blocker started 1/2 mg lorazepam on 1/20 continued 40 mg valsartan
	Feb.	4 [225/100-205/91]	Started AM 40 mg propranolol continued .1 mg clonidine AM 40 mg propranolol PM .1 mg clonidine PM 80 mg valsartan 5PM continued 1 mg lorazepam
	March	3 [187/93-176/86]	
	April	4 [197/105-179/104]	
	May	2 [170/95]	
	June	2 [204/85-179/94]	
	July-Dec.	2 [186/85-179/94]	June 15-changed timing of meds: 3:30 AM 1 lorazepam .1 clonidine 40 mg propranolol 5 PM 80 mg valsartan bedtime 1 lorazepam
2019	Jan.-Dec.	0	
2020	Jan.-Aug.	0	

4. Conclusion

In January 2018, patient was diagnosed with a Sympathetic Nervous System disorder. Prior diagnosis in 1980 was G25.0 Essential Tremor Disorder. One of the roles of the sympathetic nervous system is blood pressure regulation and medication such as lorazepam is an accepted treatment for this disorder. Her theory was proven, to her satisfaction and with documentation that the spikes stopped when lorazepam was administered at 3:30 AM and at bedtime. She tested that by stopping use of lorazepam 3 times during the study, and the malignant early morning blood pressure spikes began again. She tested lorazepam one time by decreasing it to 1/2 dose, but this was not an adequate dosage to stop the spikes. The December 25th spike was so severe, that she discontinued the practice of removing lorazepam to test the efficacy. The study continued until August 2020 when she felt that she had enough data to end her study.

*Footnote

In 2012 patient became quite aware that these malignant blood pressure spikes were dangerous for her health and became frustrated that no blood pressure medication was

able to stop them. She began her search of the literature for information pertaining to medication for malignant blood pressure spikes. Nothing was found. She did, however, find studies stating that lorazepam was given during a spike to lower blood pressure. She then hypothesized what would happen if lorazepam was given as a prophylactic. She realized that at about 3:30 AM the body starts the pumping of hormones to wake the body up. This was also the time that the spikes started. Thus started her exploration of the use of lorazepam with the correct doses of the right blood pressure medication and the proper times to administer medication in order to eradicate the Malignant blood pressure spikes.

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