

**A STUDY OF DANGEROUSLY LOW BLOOD PRESSURE DROPS IN AN OLDER PATIENT
DIAGNOSED WITH AUTONOMIC NERVOUS SYSTEM DISORDER****Kevin M Woog DC. and *Elizabeth M Sabatella MA.**

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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 afternoon, dangerously low rapid drops in her blood pressure. The documentation included time of day, duration time of the drop, and her curiosity on why these occurred. It should be noted that blood pressure medication was taken at about 3 AM and not taken at any other time in the day. This is a follow up study to an earlier published article on morning Malignant Blood Pressure Spikes, which she also suffered from. The pathophysiology of rapid drops in blood pressure, not due to suddenly standing or recent ingestion of medication, has not been widely studied. The Mayo Clinic sites an underlying medical condition could trigger low blood pressure as well as heart problems such as low heart rate, heart valve problems and heart failure. Endocrine disorders, such as adrenal insufficiency can also trigger low blood pressure. A search of the literature, however, has little information on relatively normal readings most of the day, with a sudden very low drop in blood pressure in the early afternoon hours. This drop is present and then blood pressure rises again within the normal range after an hour or so or less. Some people have low blood pressure all of the time, other people experience a sudden drop in blood pressure with a return to normal readings within a limited amount of time. According to the Journal of the American Geriatrics Society, Orthostatic hypotension [a sudden drop in blood pressure upon standing] is more prevalent in older people and those with low blood pressure. While our subjects blood pressure drops are not due to suddenly standing, they are an issue never the less. All agree, however, that extremely low blood pressure drops can result in a life threatening condition such as shock and a sudden fall in pressure can be dangerous. A change of just 20 mmHg- a drop from 110 systolic to 90 mmHg systolic can cause bodily harm. Our subject has experienced drops of 20 to up to 50 mmHg. A large study found that over 20% of individuals age 65 and older had this condition, many were unaware that they had this drop at all. This study was conducted because our subject was well educated with four degrees, and had 57 years experience as a clinical therapist, teacher and administrator, and had body awareness due to being a competitive athlete in her youth. Her insatiable desire to problem solve was part of her personality and nature.

Keywords: Blood pressure, Dangerously low blood pressure drops, Senior citizens, Autonomic nervous system.

INTRODUCTION

While these sudden drops in blood pressure, from normal to life threatening, are reportedly more present in the elderly populations, a 2015 study suggests that people with extreme blood pressure variations were more likely to have a heart attack, stroke or heart failure. Despite this documentation, few physicians go beyond the one blood pressure measurement in their office. Very few ever delve into the issue of these dangerous drops. Diagnostic inertia for hypotension seems to be the norm...when a patient is classified as normal in the physician's office but exhibits numerous, dangerous drops in blood pressure during the day. Many patients are unaware that this is happening and it is a rare physician who asks the question on extreme drops of blood pressure. The common, almost universal mode of practice is one reading in the office and off to other topics. According to the Mayo Clinic, a systolic blood pressure is considered to be low if the systolic is under 90 mmHg and diastolic is under 60 mmHg. Our subjects systolic, as an example, would drop to 88/84/78/75/71/65 and a diastolic drop to 52/49/46/41/40. These systolic/diastolic sudden, rapid drops occurred 406 times during this study. An interesting side note, as reported by Crossroads Hospice, was when an individual is approaching death, the systolic pressure will drop below 95 mmHg. Our 9 year study of sudden and severe drops in blood pressure, not triggered by medication, left us with a curiosity on why this particular medical issue has not been further investigated by physicians.

Our now 81 year old subject had been diagnosed a number of years ago with Autonomic Nervous System Disorder, which does address sudden rises and falls in blood pressure. Many medical offices use generic coding and prefer a diagnostic code of generalized anxiety disorder rather than using the correct coding. Her search for additional information and physicians familiar with the effects of this disorder were mainly fruitless. Our subject was left to her own devices in finding a way to curb the drops in pressure. Her goal and hope was to find a way to curb these dangerous drops in blood pressure in order to not succumb to heart attack, stroke or worse. It is our hope that this study triggers some curiosity and perhaps some interest in this life threatening disorder. Our goal is that eventually more physicians become aware, ask their older patients more in-depth blood pressure questions, and eventually find a more manageable way to treat this blood pressure issue.

METHODS

A 9 year daily case study was initiated in September 2011. She started a daily documentation of at least 6 readings per day, with notations of both spikes and dips. This study was motivated by her observation of the doctors who had been perplexed by her malignant early morning spikes and were unable to find a way to stop them. Through careful observation and numerous efforts, she finally found the solution and no longer suffers from them. During the course of this study she started to notice rapid drops in her blood pressure starting in early afternoon. She also noted that the physician she was

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seeing at the time seemed unconcerned. She reviewed her 9 years of daily documentation of blood pressure readings and counted 401 of these dangerously low blood pressure readings. She had experienced 117 malignant early morning spikes and discovered a treatment to stop them through research and trial and error. At the time of this printing, she was not as successful in stopping these dangerous dips. Her best effort was to take 1 tsp of salt and drink several glasses of water. This did not stop the dips but did help her raise her blood pressure back to a normal level sooner. This study was made possible due to our subjects self awareness, determination and educational background.

DATA ANALYSIS

From September 2011-December 2020, every very low drop in blood pressure was recorded, noting the speed and duration of the drop. At least 6 other readings were recorded during the day as baseline data. Medication and time of administration were recorded and matched with number of blood pressure drops during each month. Other factors in the patients life remained consistent-vegetarian diet, 10 mile a day walks, aerobic exercises, work-out with weights and floor exercises and meditation. She also studied 2 hours daily with her current interest in Astro Physics. We once asked her how she was able to continue exercise, study and staying focused living a life with a condition that could prove fatal. We mentioned that many people her age would have been worn down, become more labile, less motivated and perhaps would have given up. She looked up at us and with a smile she responded “I never got the memo.”

The study results are as follows

The range of dangerous drops were approximately between 89/57/57...67/40/65

The number of drops per month in each year will be recorded with the lowest recorded drops that month.

Year	Month	Number of drops	Lowest drop per month
2011	Sept – Dec	0	
	Nov	1	86/52/58
2012	Jan	1	82/52/76
	Feb	4	82/54/74
	March	3	80/54/86
	April	2	85/54/68
	May	3	81/50/65
	June	5	83/50/62
	July	3	83/46/56
	Aug – Dec	0	
2013	Jan – Feb	0	
	March	2	86/54/60
	April – May	0	
	June	2	88/52/52
	July	3	86/52/60
	Aug	1	86/47/55
	Sept	2	89/49/56
	Oct	1	85/52/63
	Nov	1	88/52/63
	Dec	4	87/54/60
	2014	Jan	2
Feb		3	83/51/67
March		1	89/52/55
April		0	
May		2	83/48/55
June		0	

	July	2	84/41/59
	Aug	1	89/40/54
	Sept – Dec	0	
2015	Jan	0	
	Feb	1	89/50/62
	March	0	
	April	3	83/46/69
	May	3	85/48/67
	June	3	84/50/60
	July	2	87/48/65
	Aug	2	89/49/64
	Sept	4	86/52/65
	Oct	0	
	Nov	1	87/51/57
	Dec	8	84/46/63
2016	Jan	9	79/54/67
	Feb	3	81/51/66
	March	2	78/43/66
	April	0	
	May	2	75/39/69
	June	2	86/50/46
	July	5	73/45/67
	Aug	6	77/48/80
	Sept	2	84/49/60
	Oct	1	89/45/58
	Nov	4	70/40/60
	Dec	1	79/43/59
	2017	Jan	2
Feb		5	84/45/64
March		4	76/42/58
April		1	81/52/72
May		0	
June		3	88/46/70
July		1	89/50/64
Aug – Nov		0	
Dec		1	87/50/64
2018	Jan	8	81/49/53
	Feb	4	84/47/62
	March	1	85/57/66
	April	26	71/46/60
	May	17	75/46/63
	June	20	72/45/63
	July	18	67/40/66
	Aug	9	80/51/60
	Sept	4	80/49/62
	Oct	8	80/51/59
	Dec	1	81/51/59
	2019	Jan	1
Feb		0	
March		7	66/36/60
April		8	81/45/59
May		18	80/48/60
June		10	81/52/60
July		13	74/49/60
Aug		5	80/53/59
Sept		4	85/56/68
Oct		3	80/52/60
	Nov	3	80/52/60
	Dec	2	85/58/60
2020	Jan	2	88/60/57
	Feb	1	85/56/60
	March	2	81/54/71
	April	4	84/59/57
	May	18	76/52/63
	June	23	65/52/69
	July	8	81/56/69
	Aug	6	83/52/62
	Sept	8	75/52/70
	Oct	1	82/59/83
	Nov	0	
	Dec	1	85/56/64

Conclusion

In March of 2015, patient had been diagnosed with Autonomic Nervous System Disorder. Prior diagnosis in 1980 was G25.0 Essential Tremor Disorder. The neurologist who gave the Nervous System Disorder gave no further instruction on treatment, medications or other medical advice. The client was still working at that time and her focus was on work, not this disorder. She was unaware of the dangerous side effects that she may experience as a results of these dangerous drops. No physician or other medical personnel seemed concerned. It was only after the research was explored that she became aware of how potentially dangerous these rapid, very low pressure readings were. Our major objective in this study was to further understand the side effects and dangers of sudden, very low drops in blood pressure in the older population. Our hypothesis is that numerous, older people suffer from this disorder but remain unaware and uneducated on the dangers. We are hopeful, that at some future date, others will take up the research and perhaps gather more information on how to better diagnosis, treat and hopefully save more lives.

REFERENCES

- Journal of the American Geriatrics Society 2020
Dept. of Medicine-University of British Columbia, 62[9] 1822-3
- Medical News Today- 2015, 2017 study
- NHLBI- US Dept. of Health and Human Services, National Institute of Health, "Atherosclerosis Risk in Community Study"
- Mayo Clinic "Low Blood Pressure"Mayo Clinic News Network, Dr. Sandra Herrmann
- "Blood Pressure Before Death," Crossroads Hospice, 2019
- NHLBI Honolulu Heart Program, Honolulu, Hawaii
