Differences in Left- and Right-Sided Blood Pressure – Analysis of 2196 Systematic Measurements by an Aged Male during a Full Year

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Abstract: - Both the left- and the right-arm blood pressure of an aged male suffering from hypertension were measured daily for a full year. The measurements were performed three times per day, in the morning, the afternoon, and the evening. During the year of measurements, 9 medication-dependent phases are distinguished. The 2196 sets of measurement data could be compared with the results of a 5-week period with similar measurements of the same individual, almost a year after the end of the first, full-year measuring period. The influence of the medication is significant, and most probably strongly patient-dependent. The common experience that the individuals of the investigated groups tend to show more frequently a higher SBP in the right arm than in the left arm is now, for the first time, confirmed for an individual who was investigated over a prolonged period. His interarm differences (IAD) appeared to show no detectable correlation with the SBP or DBP, and the absolute value of the IAD ranged mostly from -15 (R>L) to +15 (R<L), but some exceptional extreme values of up to -55 and +40 were also measured. The range of the IAD appears to have lowered significantly in the second measuring period, suggesting that prolonged intake of the medication is beneficial. This is supported by the fact that extreme values of the IAD had also become much less frequent. Extensive statistical analyses indicate, among other findings, that the average proportion of clinically relevant IAD (>10 mmHg) is much lower (30%) during periods with medication than during periods without medication (41%).

Key-Words: - blood pressure, DBP, hypertension, interarm differences, long-term monitoring, SBP.

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1 Introduction

When the English physician William Harvey (1578-1657) discovered and proved the circulation of blood in the human body, he could not have expected that blood pressure would become the most commonly used diagnostic feature in health care. In his 1628 book De Motu Cordis (On the Motion of the Heart and Blood), he demonstrated that the heart acts as a pump to circulate blood in a continuous, one-way system through arteries and veins. This finding has revolutionized medical insights by establishing the cardiovascular system's mechanics, showing that blood flows from the heart to the lungs, then to the body, and back. He also overturned the long-held belief (from the Greek physician Galen) that the liver produced new blood to replace that used by the body, and he showed the heart's chambers propel blood, much like a pump, in a closed circuit, from the heart out through arteries and returning via veins, aided by valves in the veins. Harvey did, however, not recognize the importance of blood pressure for health.

Stephen Hales (1677-1761), an English physiologist, was the first to recognize this. He conducted pioneering experiments, including one (1733) that allowed quantitatively measuring the blood pressure in a horse. Only decades later, other physicians began to link high blood pressure to specific diseases, such as kidney disease and heart hypertrophy. The concept of hypertension as a condition became more defined over the following decades with further research and the invention of more practical measurement tools. Richard Bright (1836) linked kidney disease to an enlarged heart, a key early observation that associated high blood pressure with organ damage, and Frederick Mahomed made in 1874 the first report of elevated blood pressure in a person without kidney disease. By 1906, insurance companies recognized that people with high blood pressure showed an increased mortality.

1.1 Understanding Blood Pressure

It is now commonly accepted that blood pressure is vital because it allows the blood to transport oxygen, nutrients, and waste through the body, ensuring that organs get what they need. With the recognition of the importance of blood pressure for health, much research has focused on this topic. This does not imply, however, that all aspects of blood pressure are well understood, even though some basic aspects become ever better known.

One of these aspects is the difference between left and right arm blood pressure (interarm difference, IAD), which has been recognized by cardiovascular experts and researchers for decades. IAD of over 10 mmHg has, however, been found to occur consistently only when obstructive arterial disease is present, [1]. A variation is considered normal, but significant if more than 10 mmHg. Several studies, [2], indicate that differences over 10 mmHg are common among people suffering from hypertension and that such differences are also a reliable parameter to predict hypertension for people whose blood pressure is not yet high enough to consider them as hypertension patients. Several studies, [3], have also found a link to increased mortality. This has resulted in the advice to perform routine bilateral blood pressure checks in primary care, [4], but this advice is hardly – or not at all – followed. The IAD is due to normal anatomical variations in artery branching from the aorta: the right arm's artery (brachiocephalic trunk) branches differently from the left's (subclavian artery). As a result, the systolic blood pressure tends to be a few mmHg higher in the right arm than in the left arm, but the reverse is not exceptional. However, a small IAD may also have a non-natural reason, for instance, if the position of the arm during measurement (e.g., hanging vs. supported) is different, or if the muscle tension differs. Moreover, slight technique differences can cause minor, temporary IAD.

Remarkably enough, the blood pressure also depends on the place of the measurement, for instance, the upper or the lower part of the same arm. These differences cannot be neglected: it was found [5] that BP measurements of the upper arm give a better prediction regarding all-cause mortality, cardiovascular mortality, and cardiovascular events (all $P<0.001$) than measurements of the lower arm.

Another important aspect is the difference between systolic and diastolic blood pressure. The diastolic blood pressure (DBP) has traditionally been considered the most important component of blood pressure (BP), but several epidemiological studies carried out recently pointed out that the systolic blood pressure (SBP) appears to be a more reliable predictor of health risks.

1.2 Previous Studies

All these (and more) aspects of blood pressure have been the subject of numerous studies. Many of these studies deal with measurements of larger numbers - often hundreds [6] or even thousands, [7] - of persons, but only during a single consultation or a limited period, commonly under well-controlled conditions (for instance, in a hospital). This implies that two parameters are overlooked: possible individual changes in SBP and DBP with time, and possible individual changes in the IAD with time.

The only study focused on the development of the BP during a longer period (a full year) and that involved systematic BP measurements is, as far as we are aware, the study that the first author carried out earlier, and of which the overall results have been published in this journal, [8]. Here, we work out the data obtained during that study concerning the interarm differences in both SBP and DBP.

2 Measuring Method and Conditions

Detailed information about the method and conditions of the study of which we provide here thus far unpublished results has been published earlier, [8]. For this reason, we mention here only the most relevant aspects:

(1) Measurements were carried out by a retired professor in one of the natural sciences, who suffered from hypertension and used successively several medicines (in consultation with his GP) to find out which medicine was most appropriate for him. Having carried out much research himself, he was well aware of the importance of correct measurements following a strict scheme.

(2) The measurement scheme included, following a strict procedure, measurement of both SBP and DBP at the left and right wrist in the morning (preferably

between 07.00 and 08.00 h), in the afternoon (preferably between 15.00 and 16.00 h), and in the evening (preferably between 23.00 and 24.00 h).

(3) Measurements were made with a Tensoval Mobile Classic, chosen because this small piece of equipment could be carried along without problems. This also explains why no (much larger and more difficult transportable) equipment for measurements of the upper arm was chosen.

The measurement method and conditions thus allowed daily measurements at the three prescribed times, without interfering with the patient´s daily life and activities. This led to a consistent, accurate, and reliable set of measurement data. This was for scientific reasons considered more important than the strict following of guidelines for BP measurement of people with hypertension as provided by, among others, the American Heart Association [9], the World Health Organization/ International Society of Hypertension [10], the European Society of Hypertension/European Society of Cardiology [11] and the British Hypertension Society, [12].

The methods concerning the statistical analyses are detailed in Section 4.3.1.

3 Results

The measurement procedure resulted in 1098 measurement moments. Since both the left and the right wrist were measured, 2 x 1098 = 2196 measurement data were obtained, for both the SBP and the DBP. Consequently, 1098 measurements of the left SBP could be compared with the corresponding 1098 measurements for the right wrist. The same holds, obviously, for the DBP. The overall results are presented in Table 1.

These findings are not surprising, since the great majority of studies devoted to this subject in the past few decades indicate that the right-arm BP tends to be slightly higher (commonly 3-5 mmHg) than the left-arm BP, [1], [5], [13], [14], [15], [16].

Table 1. Overall differences found between the 1098 (366 days x 3 measurements) x 2 (SBP and DBP) = 2196 measurements

measure-ment	**SBP (%)**	**DBP (%)**	**total (%)**
L>R	435 (40)	426 (39)	861 (39)
L=R	88 (8)	70 (6)	158 (7)
L<R	575 (52)	602 (55)	1177 (54)
total	**1098 (100)**	**1098 (100)**	**2196 (100)**

Source: created by the authors

It is not surprising either that the DBP was in our study more often higher than lower in the right arm compared to the left arm (this had also been found by, among others, [4], [17], [18] and [19], but it was unexpected to find that this percentage was almost the same (54%) as for the SBP (52%). These findings are relevant because they indicate that the results of the present study are, as far as the overall BP characteristics are concerned, not divergent from other studies, which implies that the fact that only one person is involved cannot be considered by definition to undermine the validity of the present study.

3.1 Combination of SBP and DBP

The comparison yielded 3 logical results for both the SBP and the DBP: the. left measurements were higher (coded + in the following), equal (=) or lower (-) than those of the right arm. Consequently, the combination of SBP and DBP resulted in 9 logical categories; (1) +/+, (2) +/=, (3) (+/-), (4) =/+, (5) =/=, (6) =/-, (7) -/+, (8) -/=, and (9) (-/-). In these codes, the first symbol always refers to the left arm.
As mentioned above, the measuring conditions changed during the 1-year measurement period, because the medication against hypertension was changed a few times. This resulted in nine discrete measurement phases ([8]; Table 2, Appendix).

Since it is of interest to find out whether medication (or the type of medication) has an influence on the IAD, we subdivided the year-encompassing data following the 9 medication phases (Table 3, Appendix).

It follows from Table 3 (Appendix) that a significant change occurred at the transition from phase 5 to phase 6 (*note:* the significance of the most relevant findings is detailed in a separate section - 4.3 - on the statistics of the measured values in the Discussion chapter). This distinct transition in medical effect is expressed particularly for the +/+ symbol (both the SBP and the DBP are higher at the left side than at the right side); the combination decreases from an average value of 34.0% in the first 5 phases to an average of 18.7% in the last 4 phases. Note: the percentages in phases 6-9 are much more consistent with data in other studies than the much higher values in phases 1-5. This suggests that the medication in phases 6-9 (Higrotona 50 mg or no medication) changed the interarm BP from uncommon to normal. This is supported by the values for the -/- symbol: the average values change from 32.8% to 55.8%, indicating that in the majority of measurements, both the SBP and the DBP were lower in the left arm than in the right arm, which seems logical (although no data sets about the interarm differences for the DBP are known to us. The conclusion seems justified, however, that Higrotona was the right medication for this patient.

3.2 Interarm Difference of SBP Values

Numerous studies have been devoted to the IAD. As far as we are aware, this only concerns the SBP. This is understandable because the (higher) SBP allows larger fluctuations than the (lower) DBP. It seems that consensus exists that an IAD of the SBP of some 3-5 mmHg is normal, but that a difference of >10 mmHg signals increased risk for heart attack, stroke, and all-cause death, even in healthy people, suggesting underlying vascular issues like atherosclerosis, [20], [21], and [22].

Although the patient suffered undeniably from hypertension during the full year of measurements (Table 2, Appendix), we think it of interest to mention here also the results of our measurements concerning the height of the IAD of the SBP. The measurement results are visualized in Figure 1 and presented in more detail in Table 4 (Appendix).

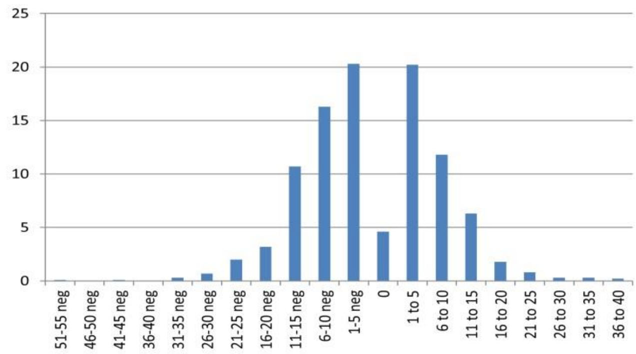

Fig. 1: Distribution of the IAS values (in %) of the SBP during the entire year 2024. The values are indicated in groups consisting of 5 consecutive values. For an explanation of the dip in the Gauss curve for the zero value

Source: created by the authors

Figure 1 shows an almost perfect Gauss curve; the strong dip in the middle is artificial because all bars are composed of the added values of 5 consecutive measurement values, whereas the bar representing a zero interarm difference represents only one value: if multiplied by 5 to conform to the basis of the other bars, the curve would be perfect. It must be mentioned in this context that the wide tails of the curve are due to a small number of outliers: values of more than 15% (positive values indicate R>L; negative R<L). These outliers represent. respectively, only 6.2% and 3.4%, so together less than 10% of all measurements.

Considering the relationship with cardiovascular risks, the occurrences of interarm differences of >10 mmHg in the nine phases are of interest (Figure 2).

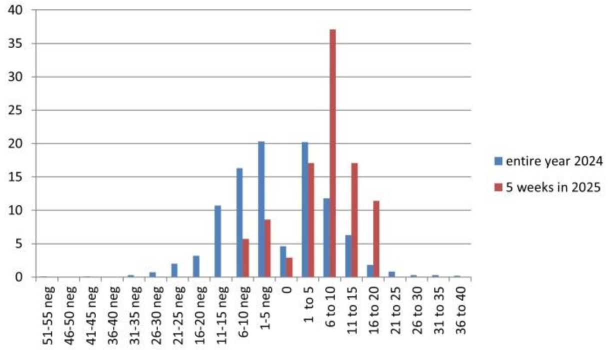

Fig. 2: Frequency (in %) of IAD values >10 mmHg in the various medical phases

Source: created by the authors

Some conclusions can be drawn from Figure 1 and Table 4 (Appendix). A first, not surprising, one is that 53.7% of the measurements show negative values, implying that the SBP was higher at the right arm than at the left arm. In 41.7%, the right-arm values were lower than the left-arm ones. (in 4.6%, the right and left arms showed an equal SBP). This finding is consistent with most other studies, [23], [24]. It is inconsistent, however, with other studies in that our measurements indicate higher differences than the 2-5 mgHg that is commonly mentioned: the average IAD was 7.4 mgHg where the left-arm values were higher than those of the right arm (6.7 if the zero differences are included); the average IAD was 8.6 mgHg where the left-arm values were lower than those of the right arm (7.9 if the zero differences are included). These differences might be ascribed to the fact that the patient under study here suffered from hypertension, but it is not clear in most other studies whether (or how many) persons with hypertension were involved.

4 Discussion

Numerous studies have been devoted in the past few decades to the IAD, particularly because of the risk for various (particularly cardiovascular) diseases. The resulting data were, however, as far as we could trace in the literature, always based on measurements of groups of persons (sometimes consisting of some thousands of individuals), but no data seem to exist for measurements of a single person during an extended period of time, so that the fluctuations over time become apparent. The present study, which is aimed at bridging this gap in knowledge, may raise questions because the measurement equipment, procedure, and conditions did not follow common practice. The reason is that the year-long daily measurements in the morning, afternoon, and evening should not unduly interfere with the daily activities of the patient, who had, though retired, still an active life.

4.1 Measurement Conditions

The unconventional, practice-oriented measurement procedures and conditions concern particularly (1) the medical background of the patient, (2) the time schedule of the measurements, (3) the conditions under which the measurements were performed, (4) the choice of the measurement equipment used, (5) the accuracy of the measurements and the reliability of the reported data, (6) the choice of the medication and the duration of the various measurement intervals, and (7) the statistics of the measurement data and their implications. All these aspects have been handled in detail by [8], to which we refer here so as to avoid duplication.

4.2 Effect of the Treatment

Another important point to be discussed is whether the data presented here indicate the treatment of the patient with hypertension was successful. As mentioned above, the patient received 3 different types of medicine, interrupted by 1 or more weeks without medicine in order to make the effects of the previous medication disappear. It appeared that Losartan in combination with hydrochlorothiazide (medical phase 5; Table 2, Appendix) had a very good effect on the blood pressure, but the side effects were so severe that this medication had to be abandoned. The last medicine, Higrotona, also had a good (though less strong) effect (phase 7), which became less, however, during a temporary stop with this medicine (phase 8). Renewed intake had a positive effect again (phase 9), but the gradual decrease of the blood pressure during this phase [8] was not yet sufficient to make the hypertension truly disappear at the end of the year-long treatment and monitoring.

The patient´s GP therefore advised to continue the daily intake of Higrotona 50 mg, and the patient did so (and still did so at the end of 2025). In order to analyze the effect of this medicine on the long term, the patient agreed with our request to measure his blood pressure again for us while we prepared the present manuscript, though for a limited time (5 weeks: November 11 – December 14) and only in the morning; he followed the same procedure as before [8]. These measurements show that both his SBP and his DBP had been lowered to acceptable values for his age (81), being on average 129 and 79, respectively (Table 5, Appendix). Also, the range in SBP and DBP had become much less than during the full-year period of measurements (Table 2, Appendix), but part of this effect might be due to the shorter period of measurements (49 vs. 366 days). Another finding was that, in 2025, the right-arm SBP and DBP were much more frequently higher than the left-arm if compared with the 2024 measurements.

Much more important in the context of the present study is the effect that the long-term intake of Higrotona had on the IAD. This is expressed in Figure 3, which shows the added IAD percentages of 5 consecutive measurement values (right-hand bars), compared with those of the full-year (2024) measurement (left-hand bars; see also Figure 1). The comparison in Figure 3 shows that the IAS values in 2025 are concentrated within a much narrower section than in Figure 1, and that the occurrence of ´outliers´ has largely disappeared (Table 4, Appendix).

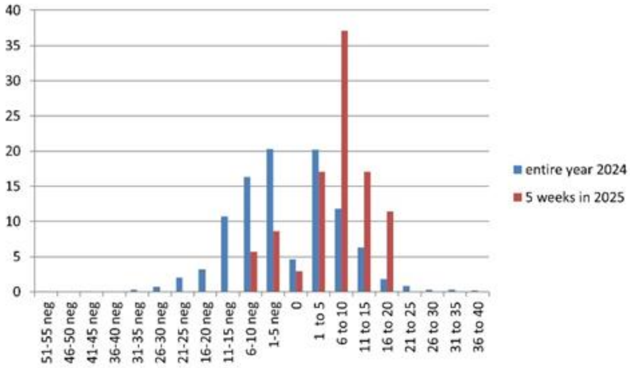

Fig. 3: Distribution of the IAS values (in %) of the SBP during the 5 measurement weeks of 2025 (red bars). For comparison, the values of the 2024 measurements are also included (blue bars). The values are indicated in groups consisting of 5 consecutive values. Note the much narrower Gauss curve of the 2024 values. For an explanation of the dip in the Gauss curve for the zero value, see the text about Figure 1.

Source: created by the authors

4.3 Statistical Analysis

The large variations in both SBP and DBP make it difficult to judge the observed IAD values. We therefore carried out several types of statistical analyses that help understand the medical significance of our findings, The symbols used follow common statistical customs:

CI = confidence interval
CV = coefficient of variation
IAD = interim difference
M = mean (= average)

Med = median
MCID = minimal clinically important difference (>10 mmHg) of IAD
n = sample size
SD = standard deviation

4.3.1 Types and Methods of Statistical Analysis

For each of the nine medical phases (Table 2, Appendix), the following descriptive statistical parameters were calculated:

- mean systolic blood pressure (SBP)
- standard deviation (SD) of the SBP
- median (Med) of the interarm difference (IAD)
- mean (M) of the absolute IAD
- SD of the IAD
- maximum measured IAD
- coefficient of variation (CV) of the IAD
- 95% confidence interval (CI) for the SBP.
- minimal clinically important difference (MCID).

All (>10 mmHg) analyses were performed using spreadsheet-based statistical calculations.

The CV value was calculated as: (SD/M) × 100; the 95% confidence interval for the mean SBP was calculated as M ± 1.96 × (SD/√n) of the IAD.

Medical phases 1, 3, 5, 7, and 9 were conducted during antihypertensive medication, while phases 2, 4, 6 and 8 were conducted without medication. Comparisons between the five medication and the four non-medication phases were examined only descriptively.

The quantitative results of the analyses are presented in Table 6 (Appendix).

4.3.2 Statistical Findings

The most interesting and statistically relevant findings are the following.

The mean systolic blood pressure varied substantially across the nine medical phases: the highest M occurred in phase 2 (159.53 mmHg), whereas the lowest occurred in phase 5 (137.06 mmHg). The SD ranges from 8.73 to 17.53 mmHg, indicating considerable variability in SBP across the nine phases. This is supported by the calculated 95% confidence intervals: the absolute values of the differences between the lower and the upper CI (in mmHg) range (Table 6, Appendix) from 1.5 (phase 7) to 8.0 (phase 4).

Regarding the IAD, the mean absolute difference ranges from 5.71 mmHg (phase 4) to 9.41 mmHg (phase 6). The Med values range from 5 (phases 4 and 8) to 8 mmHg (phases 2 and 3), indicating that typical interarm differences remained relatively moderate despite the occurrence of larger deviations. It should be mentioned, however, that extreme interarm differences were measured in several phases: the maximum IAD values range from 22 (phase 2) to 55 mmHg (phase 8), indicating that large asymmetries occasionally occurred. The standard deviation of the IAD ranges from 5.03 (phase 2) to 8.51 mmHg (phase 8), reflecting substantial variability in IAD.

The proportion of the MCID (IAD >10 mmHg) appears to have fluctuated considerably across the phases, ranging from 19.04% (phase 4) to 44.44% (phase 6)

When the phases are grouped according to their medication status, phases without medication tend to show somewhat higher frequencies of MCID, although this pattern is not entirely consistent across all phases.

5 Conclusions

A project aimed initially at lowering the hypertension of an aged male was carried out by measuring his BP during a full year, three times a day, both on the left and the right side. The huge set of BP data thus obtained yielded a wealth of information. One of the diagnostically important findings is that, even though a strict measuring protocol was followed, the blood pressure showed significant differences, not only during successive days, but also during the same day. This challenges the efficiency of the activities of organizations that call people to have their blood pressure measured at least once a year.

A second finding is that the common experience that the SBP tends to be higher in the right arm than in the left arm is confirmed. This finding had thus far been based on measurements of individuals forming part of a smaller or lower population, but it had not been found in a statistically significant way before that this holds also for individuals over a prolonged time.

More specifically, our statistical analysis of the interarm differences of the patient lead to the following conclusions.

(1) SBP varied substantially across phases, with mean values ranging from approximately 137 to 160 mmHg. Phases with antihypertensive medication generally show a lower mean SBP than phases without medication, which is consistent with the expected pharmacological effect of antihypertensive treatment.

(2) Mean absolute IAD range from 5.71 to 9.41 mmHg across the phases, and median values range from 5 to 8 mmHg. These values are broadly consistent with previously reported ranges for the IAD in clinical populations.

(3) Large IAD were measured occasionally, with a maximum of 55 mmHg, demonstrating that substantial asymmetries can occur even within a single individual over time.
(4) Clinically relevant IAD (≥10 mmHg) occurred in a substantial proportion of measurements, ranging from approx. 19% to 44%. These findings indicate that MCID may occur frequently during repeated BP measurements. Interestingly, phases without antihypertensive medication tended to show somewhat higher frequencies of large IAD, although the pattern was not uniform across all phases. Phase 4 showed comparatively low values, but this phase consisted of only one observation week and therefore represents a shorter observation period.

Taken together, these findings suggest that the IAD may show considerable temporal variability. Rather than representing a fixed anatomical asymmetry, these differences may fluctuate over time due to physiological variability, vascular tone, measurement conditions or other hemodynamic factors. The present observations therefore support the view that repeated bilateral BP measurements may provide valuable additional information about IAD variability beyond single clinical measurements.

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APPENDIX

Table 2. Characteristics of the nine medical phases

phase	medication	range SBP	average SBP	range DBP	average DBP	duration (weeks)	*n*
1	Losartan 100 mg daily	130-185	154	73-107	91	13	546
2	no medicine	141-182	161	80-103	95	3	126
3	Losartan 100 mg + hydrochlorotiazida 25 mg daily	121-168	141	69-103	86	2	84
4	no medicine	117-168	146	77-100	89	1	42
5	Losartan 50 mg + hydrochlorotiazida 12.5 mg daily	116-158	137	68-99	82	9	378
6	no medicine	128-176	150	74-105	88	3	126
7	Higrotona 50 mg daily	126-163	144	75-107	89	14	588
8	no medicine	121-219	146	70-106	90	3	126
9	Higrotona 50 mg daily	123-170	145	73-110	92	4 + 2 days	180
total / average		**110-219**	**156**	**73-110**	**92**	**52 weeks + 2 days**	**2196**

Source: created by the authors

Table 3. Results of the 1098 systematic daily inter-arm measurements, subdivided according to the combined results for SBP and DBP, and subdivided according to the medical phase. The total percentage in the last column may differ from 100 because of rounded percentages in the other columns. See text for explanation of the symbols

code/ phase		**+/+ (%)**	**+/= (%)**	**+/- (%)**	**=/+ (%)**	**=/= (%)**	**=/- (%)**	**-/+ (%)**	**-/= (%)**	**-/- (%)**		**total**
1		104 (38.1)	14 (5.1)	34 (12.5)	7 (2.6)	1 (0.4)	9 (3.3)	11 (4.0)	13 (4.7)	80 (29.3)		**273 (100.0)**
2		22 (34.9)	3 (4.8)	10 (15.9)	0 (0)	0 (0)	0 (0)	3 (4.8)	1 (1.6)	24 (38.1)		**63 (100.1)**
3		14 (33.3)	0 (0)	7 (16.7)	1 (2.4)	0 (0)	1 (2.4)	7 (16.7)	1 (2.4)	11 (26.2)		**42 (100.1)**
4		7 (33.3)	0 (0)	0 (0)	2 (9.5)	0 (0)	0 (0)	5 (23.8)	0 (0)	7 (33.3)		**21 (99.9)**
5		56 (30.2)	3 (1.6)	23 (12.2)	9 (4.8)	1 (0.5)	4 (2.1)	19 (10.1)	4 (2.1)	70 (37.0)		**189 (100.6)**
6		8 (12.7)	1 (1.6)	4 (6.3)	0 (0)	0 (0)	1 (1.6)	4 (6.3)	2 (3.2)	43 (68.3)		**63 (100.0)**
7		64 (22.1)	8 (2.7)	32 (10.9)	3 (1.0)	1 (0.3)	3 (1.0)	32 (10.9)	9 (3.1)	142 (48.3)		**294 (100.3)**
8		12 (19.0)	0 (0)	5 (7.9)	1 (1.6)	1 (1.6)	3 (4.8)	8 (12.7)	1 (1.6)	32 (50.8)		**63 (100.0)**
9		19 (21.1)	3 (3.3)	5 (5.6)	2 (2.2)	0 (0)	0 (0)	8 (8.9)	3 (3.3)	50 (55.6)		**90 (100.0)**
total		**306**	**32**	**120**	**25**	**4**	**21**	**97**	**34**	**459**		**1098**

Source: created by the authors

Table 4. Interarm differences (IAD) of the SBP combined in groups of 5 successive values, subdivided over the 9 medical phases. Negative values indicate measurements where the left-arm SBP is lower than the right-arm SBP

IAD/ phase		**-51 - -55**	**-46 - -50**	**-41 - -45**	**-36 - -40**	**-31 - -35**	**-26 - -30**	**-21 - -25**	**-16 - -20**	**-11 - -15**	**-6 - -10**	**-1 - -5**	**0**	**1 - 5**	**6 - 10**	**11 - 15**	**16 - 20**	**21 - 25**	**26 - 30**	**31 - 35**	**36 - 40**		**total**
1		-	-	-	-	1	2	3	4	13	37	44	17	64	38	29	9	5	3	2	2		273
2		-	-	-	-	-	.	1	1	7	11	8	-	9	16	6	3	1	-	-	-		63
3		-	-	-	-	-	.	-	2	4	6	7	2	5	11	4	-	1	-	-	-		42
4		-	-	-	-	-	.	1	-	1	2	8	2	4	3	-	-	-	-	-	-		21
5		-	-	-	-	-	.	1	6	19	36	31	14	47	22	10	2	-	-	1	-		189
6		-	-	1	-	-	.	2	6	12	13	15	1	8	1	2	2	-	-	-	-		63
7		-	-	-	-	2	4	8	13	38	49	69	7	57	31	11	4	1	-	-	-		294
8		1	-	-	-	-	.	2	2	10	9	17	5	11	2	3	-	1	-	-	-		63
9		-	-	-	-	-	2	4	1	14	16	24	2	17	6	4	-	-	-	-	-		90
total		**1**	-	**1**	-	**3**	**8**	**22**	**35**	**118**	**179**	**223**	**50**	**222**	**130**	**69**	**20**	**9**	**3**	**3**	**2**		**1098**
%		**0.1**	-	**0.1**	-	**0.3**	**0.7**	**2.0**	**3.2**	**10.7**	**16.3**	**20.3**	**4.6**	**20.2**	**11.8**	**6.3**	**1.8**	**0.8**	**0.3**	**0.3**	**0.2**		**100.0**

Source: created by the authors

Table 5. Results of the patient´s BP measurements during 5 weeks in November-December 2025

period	***n***	**range SBP left**	**range DBP left**	**range SBP right**	**range DBP right**	**average SBP left**	**average SBP right**	**SBP L>R (%)**	**SBP L=R (%)**	**SBP L<R (%)**
week 1	14	120-141	74-86	132-145	83-93	131	137	1 (2.9)	0 (0)	6 (17.1)
week 2	14	120-131	75-81	130-139	80-90	125	135	0 (0)	0 (0)	7 (20.0)
week 3	14	128-135	79-82	128-150	66-95	131	137	2 (5.7)	0 (0)	5 (14.3)
week 4	14	123-132	75-84	130-148	77-93	128	137	1 (2.9)	0 (0)	6 (17.1)
week 5	14	124-141	74-79	134-139	80-89	132	136	1 (2.9)	1 (2.9)	5 (14.3)
35 days	**70**	**120-141**	**74-86**	**128-150**	**66-95**	**129**	**136**	**5 (14.3)**	**1 (2.9)**	**29 (82.8)**

Source: created by the authors

Table 6. Descriptive statistics of the systolic blood pressure (SBP) and the interarm differences (IAD) across the nine medical phases

medical phase → statistic parameter ↓	1	2	3	4	5	6	7	8	9
M of SBP	154.5	159.5	141.7	145.6	137.1	148.7	143.6	146.0	144.7
SD of M of SBP	12.07	17.53	16.84	13.26	8.93	12.26	8.73	14.08	10.31
Med of IAD	6	8	8	5	6	7	6	5	6
M of IAD	8.04	8.63	7.69	5.71	6.52	9.41	7.85	7.76	7.79
SD of IAD	7.12	5.03	5.05	5.56	5.22	7.17	6.48	8.51	6.47
maximum IAD	40	22	24	25	35	41	35	55	27
CV of IAD	7.81	10.99	11.89	9.11	6.52	8.24	6.08	9.65	7.12
95% CI low	153.4	156.5	138.1	141.6	136.2	146.6	142.9	143.6	143.2
95% CI high	155.5	162.6	145.3	149.6	138.0	150.8	144.4	148.5	146.2
MCID (%)	32.60	41.27	38.09	19.04	24.34	44.44	32.99	34.92	32.22

Source: created by the authors

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Data availability

The complete set of daily measurement data is available from the corresponding author upon reasonable request, but only under specific conditions because of the patient´s privacy and ongoing data analysis by the authors.