#### Supplementary material

Jóźwik-Plebanek K, Dobrowolski P, Lewandowski J, et al. Blood pressure profile, sympathetic nervous system activity, and subclinical target organ damage in patients with polycythemia vera. Pol Arch Intern Med. 2020; 130: 607-614. doi:10.20452/pamw.15473

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## **Office and Ambulatory BP measurements**

Office BP measurements and ambulatory blood pressure monitoring (ABPM) were made as described previously [23]. Office BP was measured in the sitting position after a 5 min rest by a trained nurse. Automated device (Omron 705IT, Omron Co., Kyoto, Japan) was used. Three readings were performed until obtaining three consecutive consistent readings. The average of these readings was calculated.

ABPM was recorded using Space Labs 90207 or 90217 (Redmond, Washington, USA). Readings were conducted every 15 min during the day and every 30 min during the night. Differentiation between sleep and activity periods was made after recoding, based on data from the patient diary. Average 24-h systolic blood pressure (SBP), diastolic blood pressure (DBP) and average 24-h heart rate (HR) were analyzed.

### Carotid and renal ultrasound studies

For carotid ultrasound, followed by a duplex color Doppler examination, Phillips ATL 5000 (Philips, Eindhoven, The Netherlands) with a linear probe 7.5–12 MHz was used. Both left and right carotid arteries were examined. Multiple measurements were conducted - on the

distal wall from anterolateral and posterolateral longitudinal views. Intima-media thickness (IMT) was measured at three points (3 mm apart) in two segments 1 cm from the flow divider caudally (carotid bulb) and 1 cm caudally from the beginning of the common carotid bulb (common carotid). The IMT value was calculated as an arithmetical mean of all 24 measurements (from bulb and common carotid segments of both right and left arteries).

For renal ultrasound, a Logiq E9 (GE, Boston, Massachusetts, United States) with a multiphase 2- to 4-MHz convex array transducer was used. Color duplex mode were used to visualize the intrarenal arteries. Measurements were obtained from interlobular arteries (on the level of the edge of the pelvis and parenchyma). Doppler ultrasound spectral analysis included mean RI (peak systolic velocity – end-diastolic velocity/peak systolic velocity) obtained from 3 Doppler curves at different sites of each kidney. Duplex scanner software was used for calculation. For each patient, a mean RI based on the RI calculated in the left and right kidney was calculated.

#### **Echocardiographic measurements**

Transthoracic echocardiographic examination was performed as described before [15]. Vivid 7 (GE Medical System) with a 2.5 MHz transducer was used. Each echocardiographic parameter were measured as an average form three consecutive cardiac cycles. Left ventricular end-systolic and end-diastolic diameters, interventricular septal and posterior wall thicknesses were measured according to the American Society of Echocardiography recommendations using the M-mode technique. The formula proposed by Devereux for calculation of left ventricular mass (LVM) was used. Left ventricular mass index (LVMI) was obtained by normalizing LVM to body surface area and for the patient's height<sup>2.7</sup>.

# Supplementary Table S1.

Class of drugs	PV group (n=20)	Control group (n=20)	P values
Alfa-blockers (n)	3	6	0.26
Beta-blockers (n)	11	11	1.0
ACE-I (n)	4	5	0.71
ARB (n)	7	8	0.74
Calcium channel blockers (n)	6	8	0.51
Thiazide diuretics (n)	3	6	0.26
Loop diuretics (n)	0	1	0.31

Abbreviations: ACEIs — angiotensin-converting-enzyme inhibitors, ARBs — angiotensin

receptor blockers. PV- policytemia vera,

**Supplementary Table S2.** Demographic, laboratory and clinical characteristics of subjects with polycythemia vera and essential hypertension in whome MSNA was performed.

Variables	PV group	EH group	P values
	(n=12)	(n=12)	
Age, years	63.6 (6.7)	62.4 (7.0)	0.22
Gender	7F, 5M	9F, 7M	0.58
Number of	2 (1-3)	2 (1-3)	0.23
antihypertensive drugs,			
n			
BMI, kg/m <sup>2</sup>	26.3 (6.8)	26.1 (1.4)	0.51
Hb, g/dl	16.1 (1.5)	14.0 (0.4)	<0.001
Hct, %	50.6 (4.7)	42.4 (2.5)	<0.001
RBC, mln/µl	6.3 (0.9)	4.45 (0.2)	<0.001
PLT, 10 <sup>3</sup> /μl	420.2 (231.2)	280.7 (65.7)	0.09
WBC, 10 <sup>3</sup> /µl	10.2 (7.6-11.2)	6.8 (6.3-7.5)	0.016
Creatinine, µmol/l	78.5 (72.5-81.8)	81.0 (76.8-90.8)	0.25

Abbreviations: BMI-body mass index, EH- essential hypertension, Hb - hemoglobin, Hct -

haematocrit, PLT- thrombocyte, PV- policytemia vera, RBC-red blood cells, WBC-

leukocyte.

The results are presented as mean  $\pm$  standard deviation (SD) or median and interquartile range (IQR).

**Supplementary Table S3.** Office and ambulatory BP and HR monitoring values in subjects with polycythemia vera and essential hypertension in whom MSNA was performed..

Variables	PV group	EH group	D volues
	(n=12)	(n=12)	r values
Office SBP, mm Hg	133 (22)	134 (4)	0.78
Office DBP, mm Hg	79 (9)	80 (2)	0.81
Office, HR /min	72 (4)	73 (6)	0.55
24 hr SBP, mm Hg	126 (14)	127 (9)	0.76
24 hr DBP, mm Hg	76 (6)	77 (5)	0.48
24h SBP SD, mm Hg	8.2 (2.3)	15.1 (4.8)	0.008
24h DBP SD, mm Hg	7.4 (2.3)	11.8 (4.4)	0.09
24 hr HR, /min	63 (8)	69 (5)	0.03
Day SBP, mm Hg	128 (14)	130 (7)	0.34
Day DBP, mm Hg	78 (7)	80 (4)	0.65
Day HR, /min	64 (8)	75 (7)	0.002
Night SBP, mm Hg	119 (14)	123 (9)	0.31
Night DBP, mm Hg	69 (8)	72 (7)	0.72
Night HR, /min	58 (8)	65 (7)	0.04

Abbreviations: DBP-diastolic blood pressure, EH- essential hypertension, HR-heart rate, PVpolicytemia vera, SBP-systolic blood pressure.

The results are presented as mean  $\pm$  standard deviation (SD).