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BLOOD PRESSURE VARIABILITY AND RISK OF CARDIOVASCULAR COMPLICATIONS.

Head and co-workers reiterates their view point on various aspects of ambulatory blood pressure(BP) monitoring which appears to be quite interesting (1). Most experts have learned the role of variability in blood glucose causing increased risk of target organ damage. However, variability in blood pressures according to time structure particularly on a 7-days scale, is ignored by most of us. Glocal (global and local) guidelines for the management of hypertension emphasize that the necessity, choice and intensity of blood pressure (BP)-lowering treatment should be determined by the individual's probability of an event within a given period causing absolute cardiovascular disease (CVD) risk (1,2). However, how to assess the cardiovascular risk is based on secondary risk factors such as age, sex, family history, waist circumference and/or body mass index (BMI), blood glucose, blood lipids and the presence of associated clinical conditions and/or end-organ damage. Primary risk factors; sedentary behavior, excess of salt and alcohol consumption, tobacco intake, Western diet, mental load, geomaganetic forces, and circadian periodicity in BPs have been poorly considered. There is a complete ignorance about signatures of space weather in the ageing human blood circulation, time structures (chronomes) of the blood circulation, population health and human affairs (3,4). Extended consensus on need and means to detect vascular variability disorders (VVDs), and vascular variability syndromes (VVSs) and the role of brain-body interactions are unknown to most experts (5,6). Definition of ambulatory BP targets for diagnosis and treatment of hypertension in relation to clinic BP is based on 24-48 hours records which ignores the presence of circaseptan variability in blood pressures (7,4,5). Prognostic superiority of daytime ambulatory over conventional BP in four populations among 7030 individuals gave no consideration to night time non-dippers (8,5). These studies, although prospective, appear to be only speculations in absence of data on circaseptan increase in blood pressure variability and resultant target organ damage (9). Given that conventional health care practice is concerned mainly with high BP and given the fact that other VVDs; circadian overswinging, excessive pulse pressure, deficient heart rate variability, odd circadian blood pressure timing and MESOR hypertension are not diagnosed but contribute several fold greater risk of CVDs and deaths (3-5). A recent experimental study (9) suggest that a comprehensive re-examination of circadian behaviour and its molecular readouts under simulated natural conditions will provide a more authentic interpretation compared to that observed in the laboratory which is similar to clinic or home BP measurements. If we want to understand exactly how the clock works and how BP fluctuates, we are of the firm opinion that it is going to be very useful to have approaches, to observe BP of populations living in natural living environment, that is possible only by 7-days ambulatory BP recording. We cannot simply transfer what we know in the clinic or office into natural conditions.

Unfortunately, current management of hypertension strongly relies on clinic BP measurement, although potential evidence indicate that measurement of BP outside the clinic by ambulatory BP and/or home BP devices better represents patients actual BP. Most experts feel that there is only limited information of how to include ambulatory BP monitoring, as a stronger predictor of clinical outcomes, into the diagnosis and management of hypertension. This observation is also in agreement with a cross-sectional survey among 6740 subjects, aged 25 years and above, which reported that prehypertension and hypertension are more prevalent in India than assumed before and considered to be a big public health issue (10)

In a more recent sub- study from India involving 209 subjects (142 men and 67 women) aged 42.4 ± 18.0 years, anticipated relationships were found (11). Namely showing increase in the MESOR of SBP, DBP and heart rate, with age (SBP: r= 0.260, P<0.001; DBP: r=0.269, P<0.001; HR: r=0.242; P<0.005), as well as with body mass index (SBP: r=0.232, P<0.005; DBP: r=0.257, P<0.001). The MESOR of heart rate also de-

creased with increased activity (F=5.558, P=0.001). The MESOR of SBP decreased slightly with increased activity, but the relationship was not statistically significant. Of particular importance was the effect of consumption of fruits, vegetables and legumes (FVL) on the MESOR of heart rate (r=-0.192, P=0.011). The circadian double amplitude of HR was also found to be higher among Hindus who prayed (11.7 beats/min) as compared to Hindus who did not pray (8.1 beats/min) (Student t=2.137, P=0.035) indicating that prayer may have beneficial effect on parasympathetic activity.

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