DISCONTINUOUS BLOOD PRESSURE DEVICE INFORMATION

Problems of Current Casual Methods

Narrow limits of present casual (standard) methods

Decisions based on random (few) measurements.

Decisions based on hypostatic controlled environmental measurements.

Patient committed to lifetime of drug therapy.

Social impacts of the label "hypertensive"

Degree of lability unrecognized. (Labile Hypert.)

Circadian variations not assessed.

Nocturnal nature not assessed.

Poor correlation with target organ involvement

Need

1. More accurate predictors of target organ involvement
2. Assessment of the reliability of casual or office blood pressure determinations
3. Assessment of the degree of lability of labile hypertensives
4. Noninvasive time course documentation of the patient's "real" blood pressure throughout one complete life cycle
5. Evaluation of the effectiveness of anti-hypertensive medications
6. Drug dosage regulation
7. Evaluate pressure variations due to physical and psychosensual strain in normotensive and hypertensive subjects.

Clinical Ambulatory Requirements (Instruments)

1. Noninvasive application
2. Accuracy for systolic and diastolic pressure equal to the standard cuff method
3. Simultaneous heart rate capability

4. Totally automatic cycling
5. Portability approximating ambulatory ECG recorders (patient acceptability)
6. Mechanical and electronic ruggedness and reliability
7. Easy serviceability
8. Easy method of cross checking data with standard oscultatory techniques

Data Reduction Requirements

1. Simple numerical presentations
2. Simultaneous heart rate data
3. Simple graphic presentations for clinical assessment
4. Meaningful (useful) data presentations

Uses (Diagnostic, Prognostic, Therapeutic)

1. Characterization of blood pressure profiles in normal populations
2. Characterization of blood pressure profiles in abnormal populations
3. Accumulation of data on patients classified as labile hypertensive
4. Correlation of "blood pressure load" with patients having target organ involvement (e.g.: retinopathy, impaired renal function, ECG and/or x-ray evidence of left ventricular hypertrophy)
5. Evaluating effects of biofeedback or behavioral therapy
6. Evaluating the effects of drug therapy and establishing chronotherapy
7. Drug dosage regulation
8. Evaluation of pressure-caused precordial consciousness
9. Evaluation of patients with "fainting spells"

Examples (Case)

1. Normal
    a. No decrease during sleep
    b. Decrease during sleep
2. Hypertensive
    a. Untreated

b. Treated

(1) Drug ineffectual environmentally

(2) Sustained effectiveness

c. Increase during sleep

d. Decrease during sleep

e. Labile (obvious or typical)

3. Other (?)

a. Angina - ischemic (or blood pressure caused)

b. Fainting spells (orthostatic hypotension)