BPro®

Real-Life Case Study #2
Nocturnal Hypertension

BPro® 24-hr Ambulatory Blood Pressure Monitoring [ABPM] Live Experience.

Patient Profile

Before undergoing ABPM

Age : 64 years
Sex : Female
Race : Chinese
Medical History : Hypertension for 3 years. Also high cholesterol
Medication : On statin for cholesterol and calcium channel blocker (CCB) & B-blocker for hypertension for the last 3 years.

Clinic BP : 145/85 mmHg
Heart Rate : 61 bpm

BP measurements relied on sphymo cuff measurement.

First BPro® ABPM Profile

- Date: 14 January 2006

Summary

Start Date: 14-Jan-2006 Time: 11:47
End Date: 15-Jan-2006 Time: 11:33

Calibration Values: Systolic: 145 mmHg
Diastolic: 85 mmHg

Time of Medication: -

Daytime Systolic Pressure Load: 88.5%
Nighttime Systolic Pressure Load: 100%

Systolic / Diastolic	mmHg
Ave. 24-hr BP	145 / 86
Ave. Day BP	146 / 87
Ave. Night BP	144 / 86
% Dip	1.4% / -

Acceptable mean 24-hr blood pressure <= 135/85 mmHg

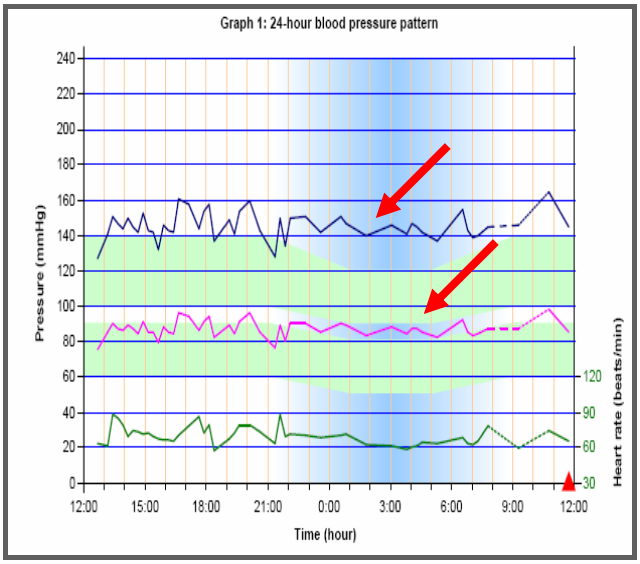
Reference Values for Dipper Status	
< 0%	Reverse Dipper
0% to 10%	Non-Dipper
10% to 15%	Normal Dipper
> 15%	Extreme Dipper

Calculation: % Dip = (Ave. Day Systolic BP - Ave. Night Systolic BP) x 100% / Ave. Day Systolic BP

Medical Record

☐ Diabetes Mellitus ☐ High Cholestrol
☐ Coronary Artery Disease ☐ Smoker
☒ Hypertension ☐ Ex-Smoker - years
Others (specify): -

Medication: LOVASTATIN 20MG; NIFEDIPINE LA 30MG; ATENOLOL 50MG



Diagnosis: The 24-hr ABPM profile indicated that the patient has border-line hypertension. This patient also manifested as non-dipper i.e. the night time sleep BP does not dip between 10% - 15% (see arrow indicated on chart above). The medication provided is obviously not effective, and further remedial actions are not implemented due to lack of availability of evidence-based data on the efficacy of the prescribed medication and blood pressure.

Action taken: The patient was taken off B-blocker and calcium channel blocker. Angiotensin Receptor blocker was prescribed to be taken for the morning and diuretics for the evening.

Second BPro® ABPM Profile – 3 months later

- Date: 15 April 2006

Summary

Start Date: 15-Apr-2006 Time: 09:42
End Date: 16-Apr-2006 Time: 09:27

Calibration Values: Systolic: 125 mmHg
Diastolic: 80 mmHg

Time of Medication: -

Daytime Systolic Pressure Load: 0%
Nighttime Systolic Pressure Load: 0%

Systolic / Diastolic	mmHg
Ave. 24-hr BP	118 / 76
Ave. Day BP	122 / 79
Ave. Night BP	109 / 70
% Dip	10.7% / -

Acceptable mean 24-hr blood pressure <= 135/85 mmHg

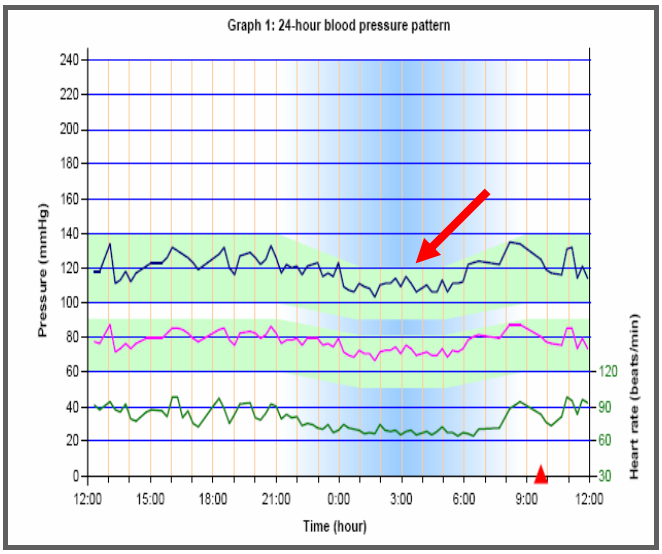
Reference Values for Dipper Status	
< 0%	Reverse Dipper
0% to 10%	Non-Dipper
10% to 15%	Normal Dipper
> 15%	Extreme Dipper

Calculation: % Dip = (Ave. Day Systolic BP - Ave. Night Systolic BP) x 100% / Ave. Day Systolic BP

Medical Record

☐ Diabetes Mellitus ☐ High Cholestrol
☐ Coronary Artery Disease ☐ Smoker
☒ Hypertension ☐ Ex-Smoker - years
Others (specify): -

Medication: COZA OM; AMTD @ 8PM



Diagnosis: The 24-hr ABPM profile indicated that this patient night time sleep BP pattern has returned to normal i.e. it dips to between 10% - 15%. Furthermore, the borderline hypertension is also well controlled.

Conclusions: The above case illustrated the power of evidence-based approach in the treatment of hypertension in using 24-hr ABPM incorporating the use of BPro® device. Without the availability of this "evidence", the patient would have been continued taking in-effective medication. It also pointed out that clinic BP which measures a single point in time BP is not enough.