

Ambulatory Blood Pressure Monitoring in Spinal Cord Injury

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Introduction:

Spinal Cord Injury (SCI) often results in autonomic impairments. The loss of autonomic control of the cardiovascular system may cause adverse BP profile with profound instability of the blood pressure (BP). Signs of adverse BP profile are autonomic dysreflexia and orthostatic hypotension causing disturbing symptoms for the patients. Adverse BP profile may lead to increased risk of cardiovascular disease. Ambulatory blood pressure monitoring (AMBP) together with a diary can identify possible triggers leading adverse BP profile.

Aim:

To illustrate how a 24-hour AMBP in combination with a diary of activities, can be used to identify possible triggers in an adverse BP profile. AMBP together with a diary of possible triggers, can be used to register fluctuations in blood pressure (BP).



Case:

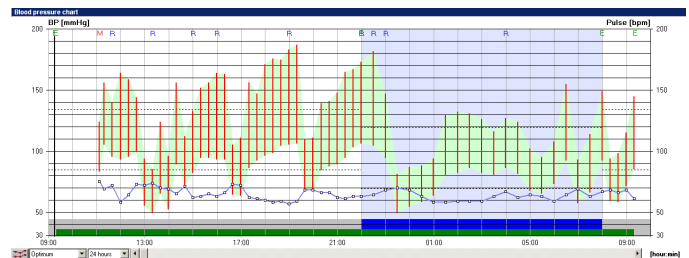
A 68 year old man, known with pre-existing hypertension experienced a traumatic SCI (C1, AIS A). On admission to the Spinal Cord Injury Center of Western Denmark, two months post injury, he was dependent on PEG (Percutaneous endoscopic gastrostomy) and ventilator. He experienced symptoms of daily fluctuations in BP, i.e. dizziness and tendency to faint, pounding headache, nausea, sweating, anxiety and fatigue. Due to the symptoms, it was difficult for him to attend the rehabilitation program.

Investigations:

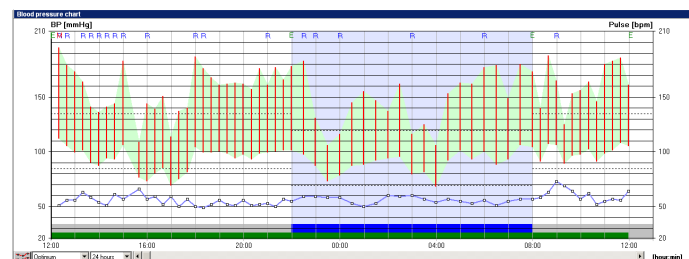
A 24-hour AMBP was performed using Meditech CardXplore AMBP, recording heart rate, systolic and diastolic BP at 15 minutes intervals during daytime and 30 minutes intervals during night-time. A diary completed by nurses accompanied the registration in order to identify activities, possible triggers, symptoms and signs.

Results:

There was a strong relationship between timing of PEG feeding (bolus 500 ml) and fluctuations in BP. After changing from intermittent to continuous feeding (62 ml/hour), the symptoms diminished. Two days later a new 24-hour AMBP showed less fluctuations in BP and a heightened mean diastolic BP.



PEG bolus feeding



PEG continuous feeding

Conclusions:

AMBP together with a meticulous diary of daily activities, is a useful tool to identify triggers leading to fluctuations in BP. By identifying triggers it is possible to take precautionary measures in order to optimize treatment and improve patient's quality of life.