Incidence, Severity, and Detection of Blood Pressure Perturbations after Abdominal Surgery

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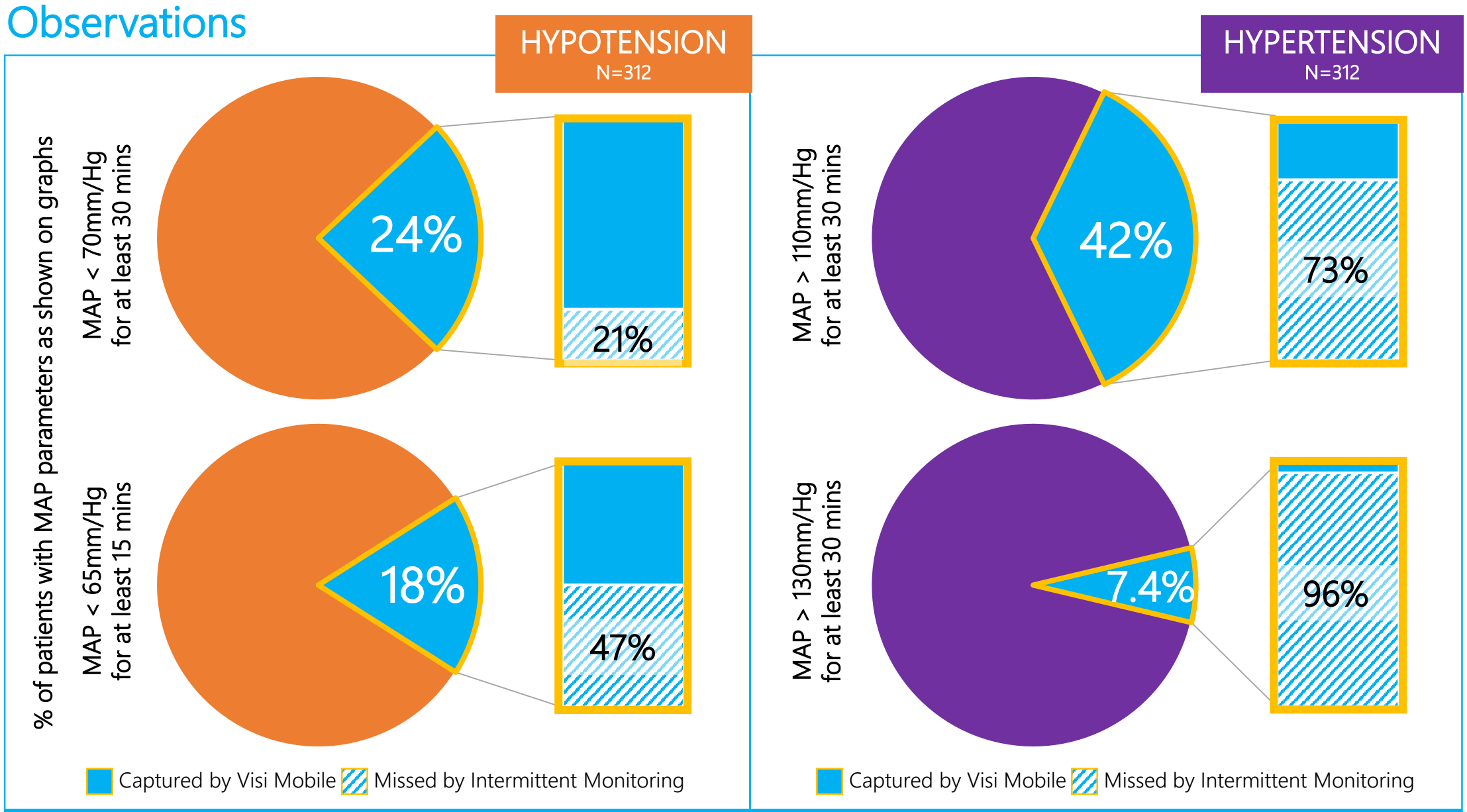
Despite known associations of intraoperative and postoperative hypotension with myocardial and kidney injury and 30-day mortality, blood pressure in surgical wards is still limited to intermittent monitoring every 4 to 6 hours, leaving long periods of hypotension and hypertension undetected.

Study Objective & Methods

A prospective, blinded, observational study with 312 patients with adequate Mean Arterial Pressure (MAP) data, 18 years or older and had abdominal surgery between February 2015 and December 2017 was conducted at the Cleveland Clinic. ViSi Mobile was used to evaluate whether noninvasive continuous BP monitoring detected more postoperative hypotension and hypertension than routine vital-sign 4-hour interval assessments.

Observations



For comparison with nursing records, hypotension and hypertension is defined as at least one contiguous episode of MAP per the parameters outlined in

Keeping An Eye on Life

Hypotension has been identified as the most common postoperative event and reason for transfer from wards to ICU.[1,2] Yet routine, intermittent vital sign measurements failed to detect much hypotension as well as hypo-xemic events. As such, the use of a continuous patient monitoring system in the general ward may improve patients' safety and outcomes.
When early detection matters, ViSi Mobile can make the difference. Transform the way vital signs are monitored with ViSi Mobile today.

[1]Lee A, et al.,: Early postoperative emergencies requiring an intensive care team intervention: The role of ASA physical status and after-hours surgery. Anaesthesia 1998; 53:529–35 | [2]Petersen et al.,: Developing models to predict early postoperative patient deterioration and adverse events. ANZ J Surg 2017; 87:457–61

RESULTS

- Hypotension is associated with myocardial injury and infarction, kidney damage, stroke and mortality.
- Intermittent vital sign monitoring failed to detect instances of hypo-tension and a common factor in readmissions to ICU.
- Continuous BP monitoring detects hemodynamic perturbations more effectively and helps facilitate timely intervention and treatment.

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