

A103

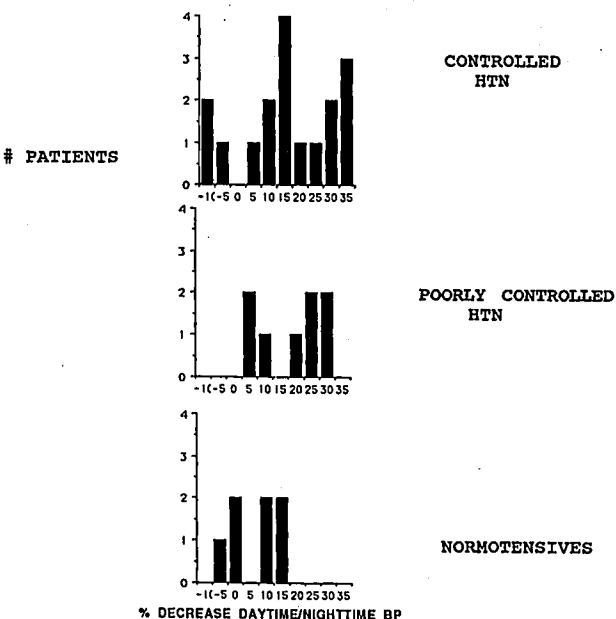
TITLE: PREOPERATIVE BLOOD PRESSURE MEASUREMENTS ARE A POOR INDICATOR OF DIURNAL VARIATION
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In the patient at risk for atherosclerotic disease, blood pressure (BP) is an important determinant of organ perfusion. Despite this fact, several studies have recently demonstrated that hypotension, in the absence of tachycardia, is not associated with an increased incidence of cardiac ischemia. Using ambulatory BP devices, BP has been shown to have a diurnal variation, with significant decreases in BP during sleep to normo- or hypotensive values in some patients. Therefore, the lower limits of BP to which the end-organs are exposed, i.e. perfusion pressure, is variable among patients. Those patients with a higher 24-hour mean BP have the highest incidence of cardiovascular morbidity. We therefore studied high-risk patients in order to determine if preoperative daytime BP and history of HTN could predict those patients who have the lowest nighttime BP.

METHODS: We studied 33 high-risk patients (h/o C.A.D., undergoing vascular surgery, 2 risk factors for C.A.D.) who were undergoing elective noncardiac surgery. A SpaceLabs ambulatory BP was worn from the evening prior to surgery until induction. All initial ambulatory BP values were within 10mmHg of auscultatory values. BP was obtained 2-3/hr during the evening, and 1-2/hr during sleep. Values were averaged over 1 hour. Anti-HTN medications were continued. Poorly controlled HTN was defined as initial daytime BP >160mmHg systolic or >95mmHg diastolic.

RESULTS: The 33 patients were divided into 3 groups, 7 normotensives, 8 poorly controlled HTN, and 18 controlled HTN. The changes in BP between daytime and night was calculated using a minimum of 2 measurements in one hour during the early evening compared to an average of 2 measurement at a time of the lowest BP during the night. The results are shown in figure.

DISCUSSION: Diurnal decreases in BP varied greatly among the three groups. Our data suggests that solitary BP measurements are a poor indicator of mean 24-hour pressure, and do not predict the normal lower limit of BP to which end-organs are exposed.



A104

TITLE: IS SUPPLEMENTAL O₂ BENEFICIAL TO PREMEDICATED PATIENTS PRIOR TO CABG SURGERY?
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The aims of this randomized prospective study were to assess the impact of supplemental O₂ on: (1) the incidence and severity of O₂ desaturation; (2) the incidence of ST depression; and (3) the association of O₂ desat and ST depression, in premedicated patients with critical coronary artery disease.

Following institutional ethics committee approval and informed consent, 93 patients scheduled for elective CABG surgery were randomized into: group 1 (n=52) - controls (no O₂ during any intervals), and group 2 (n=41) - supplemental O₂ (after premedication). All patients were monitored continuously with modified V4 and V5 ECG leads and a digital pulse oximeter. Monitors were applied 2 hrs prior to premedication and remained in place under supervision for 4 hrs. Lorazepam was given sublingually, morphine and perphenazine were given intramuscularly. The study was divided into 3 intervals (Table 1). O₂ desat was defined as SaO₂ <90% for >15 Sec.; myocardial ischemia as ST depression > 1mm for >60 mSec.

There were no significant differences in the demographic data between the two groups. The incidence and duration of desaturation was similar in the 2 groups in intervals A and B, but was significantly greater in control group in interval C (Fig 1). The incidence of ST depression was similar in both groups in all intervals, but was significantly greater in both groups following premedication (Interval C vs A) (Fig 2). There was no association of O₂ desat and ST depression in all patients in any intervals.

Premedication results in increased incidence of desaturation and myocardial ischemia in patients with critical coronary artery disease. While supplemental O₂ decreases the incidence of desaturation in these patients, it does not reduce the incidence of myocardial ischemia.

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Table 1.

INTERVAL	A	B	C
DURATION	2 hrs	1 hr	1 hr
DRUG (mg/kg)	nil	Lorazepam (0.03) Perphenazine (0.05)	Morphine (0.15) Perphenazine (0.05)

