Title: HEMODYNAMIC EFFECTS OF BW33A IN SURGICAL PATIENTS UNDER \(\text{N}_2\text{O} - \text{O}_2\) ISOFURANE ANESTHESIA

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Introduction. Currently available neuromuscular blocking agents possess varying potential for causing hemodynamic changes. The aim of this study is to evaluate the hemodynamic effects of BW33A, a new nondepolarizing muscle relaxant developed in Burroughs-Wellcome Laboratories.

Material and Methods. 16 healthy (ASA 1 & 2) patients 16-64 years old, 45-110 kg weight undergoing major surgical procedures requiring constant assessment of hemodynamic function were studied after agreeing to participate in the study according to a protocol approved by the hospital human research committee. Premedication consisted of morphine or diazepam and scopolamine or glycopyrrolate. General anesthesia was induced with pentothal and maintained with \(\text{N}_2\text{O} - \text{O}_2\) isoflurane. EKG was monitored. Blood pressure measured by an indwelling arterial cannula. Central venous pressure, pulmonary artery and pulmonary capillary wedge pressure were measured via a Swan-Ganz catheter. Cardiac output was measured by the thermodilution technique. Cardiac index, stroke volume index and systemic vascular resistance were calculated. After reaching a steady state of isoflurane anesthesia (1.25 MAC verified by mass spectrometer), BW33A 0.2 mg/kg or 0.4 mg/kg was administered intravenously. Control measurements were made immediately prior to injection of the drug and 2, 5, and 10 minutes thereafter. Statistical analysis of the data collected was performed using analysis of variance.

Results. There was no statistically significant difference from the preinjection values in mean arterial pressure, heart rate, stroke volume index (Fig. 1), cardiac index (Fig. 2). Systemic vascular resistance, central venous pressure, pulmonary capillary wedge pressure were also not significantly different from control.

Discussion. BW33A in the doses given appears to be devoid of serious cardiovascular side effects. The stability of heart rate suggests a lack of cardioautonomic effects. The minimal variation in cardiac index, mean arterial pressure or systemic vascular resistance as well as lack of any manifest allergic reaction indicate no significant ganglion blockade or histamine release. BW33A appears to be superior to the currently available muscle relaxants.

References