

**COMPARATIVE STUDY BETWEEN PROPOFOL
INFUSION VERSUS COMBINATION OF
ISOFLURANE WITH NITROGLYCERINE FOR
HYPOTENSIVE ANESTHESIA IN ENDOSCOPIC
SINUS SURGERY.**

Thesis

Submitted for partial fulfillment of master degree in anesthesia

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Summary

Deliberate hypotension is defined as reduction in systolic blood pressure to 80 to 90 mmHg. According to another definition, deliberate hypotension is a decrease in MAP to 50 to 60 mmHg in normotensive patient. Deliberate hypotension is effective in decreasing blood loss and providing better visibility in the surgical field.

Blood pressure (BP) is the pressure exerted by circulating blood upon the walls of blood vessels, and is one of the principal vital signs. Average values for arterial pressure could be computed for any given population, there is often a large variation from person to person; arterial pressure also varies in individuals from moment to moment and with age. The mean arterial pressure (MAP) is defined as the average arterial pressure during a single cardiac cycle. Cardiac output is defined as the volume of blood pumped by the heart per minute. Heart rate is an intrinsic function of the SA node (spontaneous depolarization) but is modified by autonomic, humoral, and local factors.

The primary advantages of this technique are minimization of surgical blood loss and better wound visualization. There is a debate upon the level of hypotension required to produce a desirable effect locally at the surgical site. Techniques of deliberate hypotension include physiological, mechanical and pharmacological factors.

Deliberate hypotension decreases arterial blood pressure by decreasing cardiac output or SVR, or both. Cardiac output should remain sufficiently high not only to provide adequate oxygen and energy substrates but also to remove metabolic waste products before their accumulation causes tissue damage. The capacity of the tissues to regulate their own blood flow is referred to as autoregulation.

Blood pressure measurement is made by intra-arterial device during significant hypotension. Continuous monitoring of the ECG is mandatory as β -adrenergic receptor antagonist which is used as a premedication increases risk of bradyarrhythmia. Capnography and pulse oximetry should be regarded as mandatory during induced hypotension. Monitoring of central venous pressure is not routine. Blood gases are helpful to determine adequate oxygenation and ventilation (PaCO_2 , PaO_2 and oxygen content).

Complications are rare. The elderly and those with underlying organ dysfunction are probably at higher risk. Therefore, the anesthesiologist must assess each patient carefully so that the decision to use deliberate hypotension is based on reason. The intelligent use of deliberate hypotension has distinct advantages.

Complications are prevented by adequate monitoring, ventilation, positioning, limiting the extent and duration of hypotension and by proper patient selection

Propofol is one of the most common anesthetic drugs used in general anesthesia, which decreases systemic blood pressure by vasodilation (9). In maintenance phase of anesthesia, infusion of propofol reduces the blood pressure for about 20-30 percent, compared to preinduction BP.

Propofol has achieved widespread use. It can provide all of the components (hypnosis, amnesia, and surgical immobility) of a true anesthetic, and when combined with an opioid, it is described as total intravenous anesthesia (TIVA). This combination offers excellent and predictable recovery conditions while minimizing postoperative side effects,