



MODERN BASIS OF CONTROLLED HYPOTENSION USING PROPOFOL UNDER ANESTHESIA FOR ENDOSCOPIC SINUS SURGICAL INTERVENTIONS.

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Abstract:

To date, the problem of the effectiveness of the use of propofol under anesthesia with controlled hypotension in endoscopic sinus surgery continues to be relevant. The main problem is that bleeding during the operation will interfere with the view, because of this, the procedure will take longer, increasing the risk of damage to nearby structures (eyes and brain). One method of reducing bleeding during general anesthesia is controlled hypotension, which involves deliberately lowering blood pressure below normal to improve the surgical site. However, lowering blood pressure carries risks such as permanent brain damage, delayed awakening, a blood clot in the brain, insufficient blood flow to the brain, and death. Propofol (an anesthetic given intravenously) and volatile anesthetics (given by inhalation) are alternative ways to lower blood pressure during the anesthetic period.

Keywords: propofol, controlled hypothesis, endoscopic surgery

INTRODUCTION: In middle ear surgery and endoscopic sinus surgery (SNS), one of the important tasks is to improve the visualization of the surgical field. The main technique to improve visibility is anesthesia with controlled hypotension. Controlled hypotension is a drug-controlled decrease in blood pressure during anesthesia to a systolic blood pressure level of 80–90 mm Hg. Art., mean blood pressure - up to 50-65 mm Hg. Art., but not more than 30% of the original.

Recently, intentional hypotension using the anesthetic propofol has become popular. Propofol is commonly used during anesthesia, both as an induction agent and to maintain anesthesia. It induces a state of general anesthesia by facilitating gamma-aminobutyric acid (GABA) mediated inhibitory neurotransmission. Propofol has a fast onset and recovery time with a short half-life and duration of action. Disadvantages of propofol are that it causes pain when injected, and administration can lower blood pressure and cardiac output. Changes in blood pressure can be rapidly achieved in response to bolus doses or infusions if needed.

To achieve intentional hypotension, propofol was more effective than volatile anesthetics in reducing blood loss. If propofol is superior to alternative drugs in achieving intentional hypotension for endoscopic sinus surgery, then this will be important information for the

anesthesiologist in choosing a more appropriate technique. If, on the other hand, there are any obvious disadvantages associated with propofol, this information will be just as important to the clinical practitioner.

PURPOSE OF THE STUDY:

To study the effectiveness of the use of propofol under anesthesia with a controlled hypothesis in endoscopic sinus surgery.

MATERIALS AND METHODS:

To achieve the goal of the study, the following methods were chosen: Analysis and generalization of literary sources on the topic of the study, analysis of anamnestic data, analysis of medical records, quantitative and qualitative data analysis.

The study included 60 patients. The studies were carried out in the second clinic of the Tashkent Medical Academy. We included participants over 25 years of age who received general anesthesia for endoscopic sinus surgery.

In doing so, we focused on:

1. Total blood loss (blood loss during surgery, measured by the amount of blood collected in the aspiration machine and by the weight of nasal swabs).



2. Operator's assessment of the quality of the surgical site: on a 6-point scale (0 = no bleeding; 1 = slight bleeding and no need for blood suction; 2 = little bleeding and occasional suction required; 3 = little bleeding and frequent suction required (bleeding threat) . operating field a few seconds after removal of aspiration); 4 = moderate bleeding (requires frequent aspiration, bleeding threatens the operative field immediately after removal of the aspiration); 5 = Severe bleeding (continuous aspiration required, bleeding occurs faster than can be removed by aspiration, surgical site is severely compromised) (Fromme 1986).
3. Operation time is estimated in minutes (from the beginning of the operation to its end).
4. Cases of unsuccessful intentional hypotension (defined as failure to lower mean arterial pressure to values below 65 mmHg).
5. Mortality within 24 hours after surgery. Complications from the deliberate hypotension technique reported in the study (eg, irreversible brain damage, delayed awakening, cerebral thrombosis, cerebral ischemia).
7. The need for a second operation.
8. The need for hospitalization in the intensive care unit or in the intensive care unit after surgery.

RESULTS AND THEIR STUDIES:

Total blood loss: We compared propofol with isoflurane and reported a mean TBL of 100 ml (interquartile range 60 to 230 ml) in the propofol group compared to a mean TBL of 170 ml (interquartile range 90 to 280 ml) in the isoflurane group. This difference was not statistically significant ($P = 0.13$). We downgraded the evidence for outcome to moderate because of the unclear risk of selection bias.

Assessment of the surgical field: the mean score in the propofol group was 1.96, and in the control group - 2.87. The difference in the assessment of the quality of the surgical field with propofol was -0.75 compared with the control group.

Operation time: Mean operation time 89.42 minutes in the propofol group compared to 91.51 minutes in the control group. The difference in operation time with propofol was -4.81 compared to the control group.

Failure rate of intentional hypotension 8.89% in the propofol group and 37.21% in the control group.

Mortality was not observed either in the main or in the control group.

No complications from the deliberate hypotension technique were observed.

The need for reoperation was not observed in any of the groups.

CONCLUSIONS: Intentional hypotension with propofol may reduce measured TBL in adults compared to the volatile agent, but studies are not strong enough to support or refute this suggestion. A statistically significant improvement in operative field quality was observed with intentional hypotension with propofol compared with intentional hypotension with inhalation anesthetics (mean difference = 0.64 on a 6-point scale) with low-quality evidence. This is a small improvement (less than one category) and it is not clear if this difference is of clinical significance. The duration of surgery did not differ between groups with low-quality evidence. No deaths were recorded during the study.

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