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Abstracttitel: EFFECTS OF ANESTHETICS ON THE REACTIVITY OF INTERNAL MAMMARIAN ARTERY IN PATIENTS UNDERGOING CORONARY-ARTERY BYPASS GRAFTING SURGERY

Purpose: We examined the effects of three different anesthetic regimens comparatively on the contractile and dilatory reactivity of internal mammarian arteries (IMA) in patients undergoing coronary artery bypass surgery because it is a matter of concern for graft patency.

Methods: Contractile and dilatory responses of IMA (obtained as discarded distal end if available from thirty three consecutive patients scheduled for elective surgery) to potassium chloride (KCl), norepinephrine (NE), acetylcholine (ACh), bradykinin (BK) and sodium nitroprusside (SNP) were measured in vitro using an organ chamber and isometric force transducer. Mean time elapsed between vessel extraction and organ bath was thirty minutes. The results were compared between propofol intravenous anesthesia (PIA) group (n=6) and sevoflurane group (n=17), between PIA group and isoflurane group (n=10) and between sevoflurane and isoflurane groups.

Results: Contractile responses induced by KCl were increased by sevoflurane in comparison to PIA and isoflurane groups. Responses were not different when PIA and isoflurane groups were compared. Contractions in response to NE were not significantly different between sevoflurane and PIA groups. Isoflurane attenuated these responses when compared with PIA group. We observed significant differences in response to NE between sevoflurane and isoflurane groups. Vasodilatory effects of ACh on NE precontracted rings were not different between sevoflurane and PIA groups. Vasodilation induced by ACh were attenuated by isoflurane when compared with PIA and we observed significant differences between sevoflurane and isoflurane groups. We observed no significant differences in responses to SNP and BK when compared between three groups.

Conclusion: In conclusion, in vitro contractile and dilatory responses of IMA were more pronounced in propofol and sevoflurane groups when compared with isoflurane group.