

ASCORBIC ACID DOES NOT INFLUENCE RECOVERY OF CONSCIOUSNESS

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Purpose: The purposes of this study were to evaluate the effects of general anesthesia on plasma ascorbic acid levels, and to examine the association between post anesthesia consciousness and plasma ascorbic acid levels.

Method: This study was designed as a pretest-posttest repeated measures investigation. Ascorbic acid levels were measured at four time periods (pre-anesthesia, post induction, post incision, and post recovery) in patients (N=50) undergoing surgery and general anesthesia. Following surgery, patients were administered a paper and pencil measure of attentiveness that served as an index of post-anesthesia consciousness.

Findings: The results suggest that changes occur in plasma ascorbic acid levels at different time points during the anesthesia regimen in non-emergent surgical patients. No statistically significant relationships were found between plasma ascorbic acid levels and improved post anesthesia consciousness, suggesting that ascorbic acid does not influence recovery of consciousness.

Discussion: Much remains to be learned about possible moderators of general anesthetic agents and their influence on the recovery of consciousness following general anesthesia. General anesthesia decreases plasma ascorbic acid levels and may impair consciousness during the post-operative period. Ascorbic acid is essential for brain function and may be associated with the return of post-operative consciousness through action on the synaptic receptors in the brain. The findings from this study are consistent with previous reports in the literature, which found that ascorbic acid levels were decreased in patients receiving general anesthesia. Researchers have reported that general anesthesia reduces plasma ascorbic acid levels, however, there is inconclusive evidence regarding the effect of general anesthesia on post-anesthesia consciousness.