

GobinVeekash MD, Liu XinWei MD (Associate Professor), Min Su PhD (Professor). Carbon dioxide pneumoperitoneum, physiologic changes and anesthetic concerns. AMBULATORY SURGERY 16.2 JULY 2010

Link - <http://www.iaas-med.com/files/Journal/FINAL16.2/VEEKASH.pdf>

Abstract

Objective: To review the different changes in physiology during carbon dioxide pneumoperitoneum, and the necessary adjustments to minimize and manage them.

Data sources: Data were obtained from searches in PubMed years 1997 to 2009, using key words: laparoscopy and anesthesia, effects of pneumoperitoneum on cardiovascular system, pneumoperitoneum and respiratory system, renal perfusion during laparoscopy.

Results: Many physiological changes occur during CO₂ pneumoperitoneum. The severity of these changes depends on the intra-abdominal pressure being used, and also the position of the patient on the operating table plays an important role. With adequate adjustments and pharmacologic therapy, many of these alterations can be safely managed and prevented.

Conclusion: A thorough understanding of the pathophysiology which occurs during carbon dioxide intra-abdominal insufflation is mandatory to manage promptly any complications that arise. Anesthetists and surgeons should also put much emphasis on ways and techniques to reduce these alterations, therefore reducing patients' exposure to complications that might follow