

Erikoglu M, Yol S, Avunduk MC, Erdemli E, Can A. Electron-microscopic alterations of the peritoneum after both cold and heated carbon dioxide pneumoperitoneum. *J Surg Res* 2005; 125: 73-77

LINK - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3003799/>

Abstract

Background

Laparoscopic surgery has been incorporated into common surgical practice. The peritoneum is an organ with various biologic functions that may be affected in different ways by laparoscopic and open techniques. Clinically, these alterations may be important in issues such as peritoneal metastasis and adhesion formation.

Methods

A literature search using the Pubmed and Cochrane databases identified articles focusing on the key issues of laparoscopy, peritoneum, inflammation, morphology, immunology, and fibrinolysis.

Results

Laparoscopic surgery induces alterations in the peritoneal integrity and causes local acidosis, probably due to peritoneal hypoxia. The local immune system and inflammation are modulated by a pneumoperitoneum. Additionally, the peritoneal plasmin system is inhibited, leading to peritoneal hypofibrinolysis.

Conclusion

Similar to open surgery, laparoscopic surgery affects both the integrity and biology of the peritoneum. These observations may have implications for various clinical conditions.