



AB074. 159. The peritoneal reflection: structural importance and role in colorectal disease

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Background: The peritoneal reflection is a continuous structure within the abdominal cavity occurring where the peritoneum is opposed to the retroperitoneum bridging the space between two contiguous viscera. Mesenteric-based surgery requires division of the peritoneal reflection (i.e., peritonectomy) to facilitate access to underlying mesofascial planes. We characterise the structure of the peritoneal reflection in normality and disease using light microscopy (LM) and scanning electron microscopy (SEM).

Methods: The peritoneal reflection was sampled from two cohorts: human cadavers (n=5) and patients undergoing elective surgery for Crohn's disease (n=7). All surgical procedures followed a mesenteric-based approach.

Sampled specimens were processed for LM and for SEM using standard protocols. All samples were independently appraised by a colorectal surgeon and anatomist. Comparative analysis of normal and diseased tissue was undertaken.

Results: The peritoneal reflection was evident on both cadaveric dissection and intra-operatively. Peritonectomy permitted access to mesofascial planes, thus, facilitating mesenteric-based resection. LM and SEM analysis of normal peritoneal reflection demonstrated a mesothelial structure of squamous cellular morphology. In Crohn's disease, that morphology changed transitioned to cuboidal with significant alterations in associated connective tissue.

Conclusions: Despite its surgical significance, the peritoneal reflection has been poorly studied to date. We have demonstrated its structural importance in both cadaveric and patient cohorts. LM and SEM analysis reveal significant morphologic changes in the peritoneal reflection in response to disease. However, the underlying pathophysiologic processes contributing to this require further investigation.

Keywords: Peritoneal reflection; Crohn's disease; histology; light microscopy; electron microscopy

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