

The Mesocolic Hilum - An Electron Microscopic Appraisal of Anatomy

ABSTRACT

The mesocolic hilum is the interface between the mesentery and the gastrointestinal tract (GIT). To date, no studies have been undertaken to formally assess the anatomic appearance of the mesocolic hilum. Scanning electron microscopy (SEM) allows for accurate determination and appraisal of histologic structure and topography.

The aim of this study was to determine the microscopic anatomy of the mesocolic hilum.

Human cadaveric samples were harvested and all anatomic practice adhered to appropriate national legislation. Thick-section samples were dehydrated accordingly before being mounted to metal studs and sputter-coated in gold. All analysis was conducted using a Hitachi S2600N Variable Pressure Scanning Electron Microscope.

SEM was performed of the mesocolic hilum to characterise its structural topography. This demonstrated a complex and highly vascularised structure. The mesenteric connective tissues were clearly seen to invest the serosa of the GIT. This connective tissue extended into the *muscularis externa* creating radial and circumferential septa within the longitudinal and circular muscle layers respectively. The mesenteric connective tissue is also noted to contribute to the submucosa and mucosa of the GIT. Arterioles are seen to extend from the mesentery penetrating the serosa of the GIT. Vascular beds surrounded in collagen and elastin fibres are noted in abundance throughout the hilum.

This is the first study to appraise the structural microscopic anatomy of the mesocolic hilum. SEM demonstrates a complex, vascularised margin with significant contributions from the attached mesentery. Improved understanding of surgical anatomy contributes to improved techniques in surgical practice.

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SOURCE

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