

### **5.3 Consideration of the Blood Supply of the Ileo-caecal Segment in Valve Preserving Right Hemicolectomy**

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#### **ABSTRACT**

**Introduction:** The ileo-caecal valve (ICV) is known to control the flow of chyme and to prevent bacterial colonization of the small intestine. Preservation of this segment during right hemicolectomy is likely to prevent loss of its function.

**Methods:** Fifty four fresh human cadavers (37 male, 17 female; median age – 54 years, range 18 to 90 years) were studied after obtaining written, informed consent from a relative. At postmortem, 20cm of terminal ileum with the ileo-caecal segment and up to 20cm of ascending colon were removed en-block with its mesentery and blood supply. The ileo-colic artery was cannulated and injected with 10ml of water soluble red dye under pressure. The arterial supply was dissected to demonstrate a pattern.

**Results:** In all, the ICV was supplied by the ileo-colic artery, a branch of the superior mesenteric, which divided into an anterior and a posterior caecal branch. A marginal branch of the right colic was noted to contribute to ICV blood supply in only 2(4%). Furthermore, study of the anastomosis at the ICV showed that the anterior caecal artery was present in all (100%), posterior caecal in 48(89%) and recurrent ileal artery was present in 53(98%).

A rich anastomosis between vessels at the ICV; small 'windows', short tributaries, was seen in 38(70%) whilst a poor anastomotic network at the ICV; large 'windows', long tributaries, between these vessels was seen in 12(22%). In 4(8%), we were unable to determine between rich and poor anastomotic networks clearly. Other variants included, was absent posterior caecal artery in 6(11%) and absent recurrent ileal artery in 1(2%).