

# From Embriology to Eurgical Anatomy in Colorectal Surgery

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Nowadays, the gross anatomy is not longer considered a static discipline because it is constantly evolving along with surgical progresses. In particular, laparoscopic surgery, in the last twenty years, has further contributed to the deepening of some aspects of the dissection in peritoneal cavity, especially in colorectal surgery.

In 1982 Heald et al. introduced the concept of total mesorectal excision (TME) as an anatomical-surgical basis for a correct resection of rectal cancer [1]. In 2009 Hohenberger et al. introduced the same principle for complete mesocolic excision (CME) [2]. The knowledge of the different organogenetic phases in the development of the gut and of the mesentery is extremely useful in clinical applications, since it allows, in particular with a laparoscopic approach, to identify the peritoneal attachment layers and the mesenteric limits.

The aim of our study was to deepen the knowledge of the mesenteric embriology with the dissection on cadaver, the laparoscopic dissection, the histology and the virtual reconstruction of anatomical structures using Nuclear Magnetic Resonance imaging as starting point.

Moreover, we propose a video in which we show the mesorectal excision on cadaver and patient with the new transanal approach (Transanal total mesorectal excision, TaTME).

We want to show that in human body only a mesenter is present and it starts from the inferior region of the esophagus and reaches the cloaca, where the rectum has its own meso, called mesorectum, which separates the organ from the posterior part of the pelvis.

## References

- [1] Heald et al. (1982) The mesorectum in rectal cancer surgery: the clue to pelvic recurrence? *Br J Surg.* 69:613–6.
- [2] Hohenberger et al. (2009) Standardized surgery for colonic cancer: complete mesocolic excision and central ligation – technical notes and outcome. *Colorectal Dis.* 11:354–64.

## Key words

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Mesenter, colorectal surgery.